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AGRICULTURAL OUTLOOK

Economic Research Service
United States Department of Agriculture

August 1992

Agriculture's Frontier:
Industrial Crops

AGRICULTURAL OUTLOOK



Cover Photo:
Field of rapeseed in
Northwestern U.S.

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News of Industrial Crops, Canola, World Poultry Markets, and the Enterprise for the Americas Initiative

Expanding frontiers for growers of the nation's food, fiber, and forest products include new methods of production, new materials for food and industry, and new markets and strategies. Among the more exciting possibilities is diversification into industrial products.

Industrial uses of agricultural commodities have potential to improve farm income, create jobs, and expand the economies of farm states. At the same time, agricultural commodities offer an environmental bonus—renewable substitutes for many nonrenewable products like petroleum and plastics.

Although industrial uses may be a supplemental source of demand for some traditional crops, others—like industrial rapeseed, crambe, and kenaf—are grown primarily for the industrial market. New uses of agricultural products include fuels, biodegradable polymers and packaging, industrial chemicals, lubricants, coatings, and inks.

U.S. farmers are also looking at new crops, like canola, to meet changing consumer demands. Consumer interest stems from perceived health benefits of canola—with the lowest saturated-fat content of major vegetable oils. Speculation on canola's future ranges from a niche crop for the specialty oils market, to an important cash crop for farmers.

Despite growing interest, however, no solid consensus exists on how production of canola will evolve in the U.S. Although current U.S. demand can support up to 1.5 million acres, only 160,000 acres were planted this year, and U.S. farmers face stiff competition from established Canadian producers.

For U.S. poultry producers, differentiating products and adopting innovative market strategies have brought success in domestic and global markets. Organizational restructuring, increased demand, and technical advances are among the



factors maintaining the U.S. poultry industry at first place in global output.

Although only about 7 percent of the world's poultry is traded internationally, U.S. exporters have successfully borrowed marketing strategies used to promote domestic consumption—selling further-processed poultry and parts rather than whole birds—to boost the volume and share of U.S. poultry traded worldwide.

Poultry is just one of the foods in higher demand in the U.S., as the baby-boom generation matures and their changing lifestyles and increasing health consciousness transform America's food system. Farmers, manufacturers, and marketers are responding to the changes in several ways. Traditional ingredients in many products, for example, are being replaced by a variety of substitutes, ranging from low-calorie sweeteners to fat and protein substitutes. Many of these products are still in the development stage, but their introduction is likely to add further changes to the food landscape.

New methods of production are also on the horizon for U.S. agriculture, prompted by rising concerns about the safety of pesticide chemical residues in food and water, as well as other potential health and environmental risks. A court ruling last month requires the Environmental Protection Agency to revoke approval of four widely used chemicals. Invoking the Delaney clause of the Food, Drug and Cosmetic Act passed in 1958, the ruling could affect some 60 pesticides. The decision affects primarily fruits and vegetables, but could also limit pesticide use on some grains.

Initial research looking at cash grain farms suggests that the potential profit impacts of reduced chemical pesticide use may vary in significance, depending on the level of reduction. Such information can help farmers and policymakers in developing alternative, more sustainable agricultural techniques that are less dependent on agricultural chemicals.

Expanding the trade frontier for U.S. agricultural products is part of the U.S. Enterprise for the Americas Initiative (EAI), and may ultimately lead to a hemisphere-wide free trade zone. Announced by President Bush on June 27, 1990, the EAI encourages political and economic reform in Latin America and the Caribbean, by promoting free trade, entrepreneurship, and economic growth.

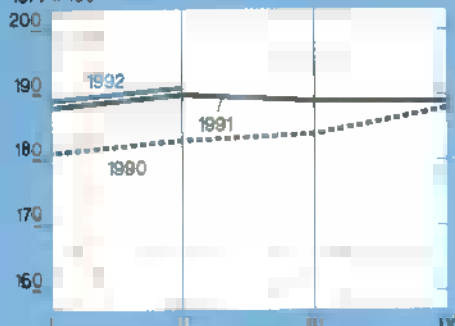
The EAI builds on other recent trade initiatives, including a free trade agreement concluded with Canada, and ongoing negotiations with Mexico. Chile is the next likely Western Hemisphere partner, after Mexico, for a free trade agreement with the U.S. Chile's open and stable economy makes it an attractive candidate for liberalized trade with the U.S. Chile's natural geographic barriers to pests and diseases help ensure the quality of animal and plant health—an added advantage in trade.

Commodity Overview

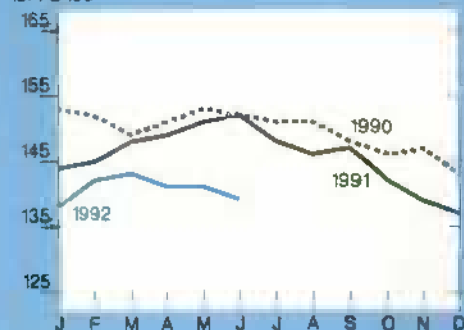
Prime Indicators

Index of prices paid by farmers

1977 = 100

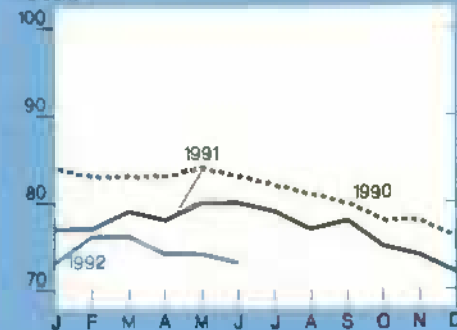
Index of prices received by farmers¹

1977 = 100

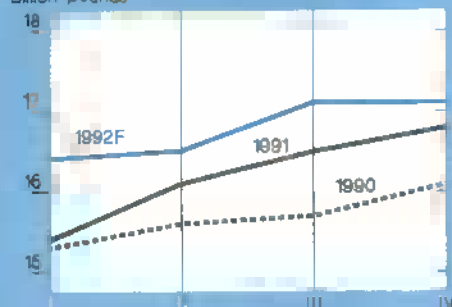


Ratio of prices received/prices paid

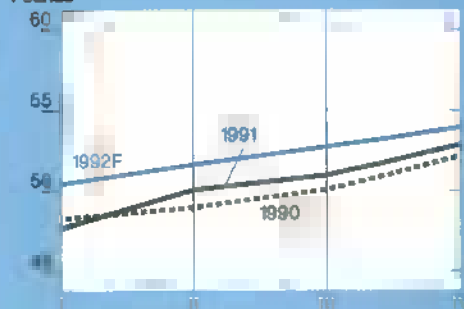
Percent

Total red meat & poultry production²

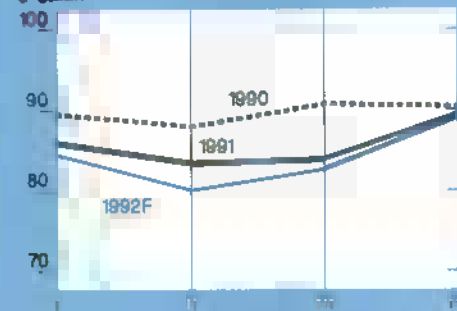
Billion pounds

Red meat & poultry consumption, per capita^{2,3}

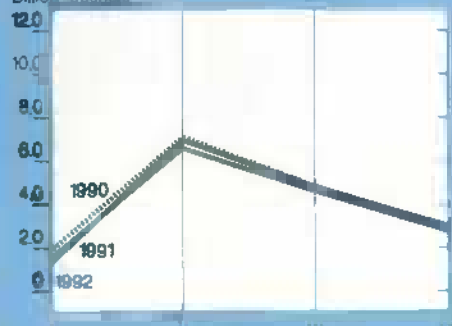
Pounds

Cash receipts from livestock & products⁴

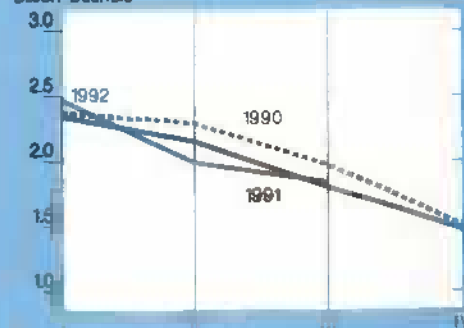
\$ billion

Corn beginning stocks⁵

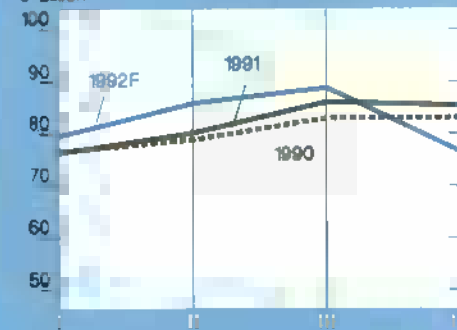
Billion bushels

Corn disappearance⁵

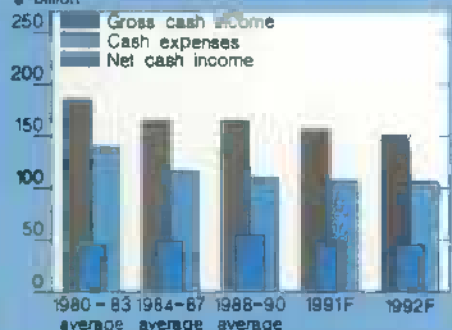
Billion bushels

Cash receipts from crops⁴

\$ billion

Real cash income (1987\$)⁶

\$ billion



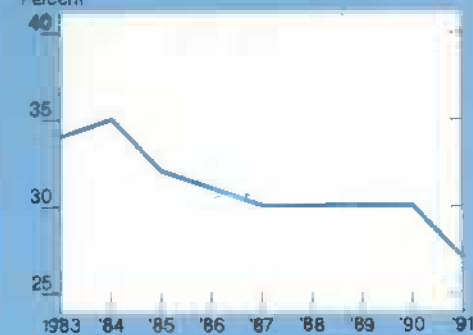
Average real value of farm real estate

1982 \$/acre



Farm value/retail food costs

Percent

¹For all farm products. ²Calendar quarters. Future quarters are forecasts for livestock, corn, and cash receipts.³Retail weight. ⁴Seasonally adjusted annual rate.⁵Cash expenses plus net cash income equals gross cash income. F=forecast

Commodity Overview



Livestock, Dairy & Poultry Overview

The June Hogs and Pigs report dispelled earlier predictions of herd liquidation, projecting higher pork production through mid-1993. Just before the report's release, hog prices likely hit their 1992 peak, near \$50 per cwt, but prices are expected to drop sharply to around \$40 per cwt by late summer.

Beef exports during January-April 1992 were nearly 13 percent higher than a year earlier. While Japan remains the largest single market for U.S. beef, exports to Korea and Mexico jumped 50 percent, and shipments to Canada were up nearly 7 percent.

Broiler prices are expected to average slightly below last year despite slower production growth and strong exports. Ample supplies of red meat and poultry will continue to pressure broiler prices. [For the latest livestock, dairy, and poultry market outlook, see tables 10-16.]

Pork Production To Increase

The June *Hogs and Pigs* report derailed earlier forecasts of herd liquidation, and projections call for increased pork production at least through mid-1993. Just prior to the report's release on June 30, hog prices hit their 1992 peak, near \$50 per cwt. But prices are expected to drop to around \$40 per cwt by late summer.

June 1 inventories of all hogs and pigs were up 5 percent from a year earlier. Market hog inventories were up 6 percent, while breeding hogs rose 1 percent. September-November sow farrowing intentions were 3 percent above the same period a year before.

Hog and pig inventories in 13 of the 16 quarterly reporting states were either unchanged or higher. The greatest increases occurred in Iowa and North Carolina, where inventories rose 8 and 24 percent. North Carolina's large increase followed rapid expansion by large contractors.

Earlier predictions of herd liquidation were probably influenced by producer losses seen in the November 1991-April 1992 period. However, hog prices rallied

sharply in May and June, and producers' returns were positive in these months.

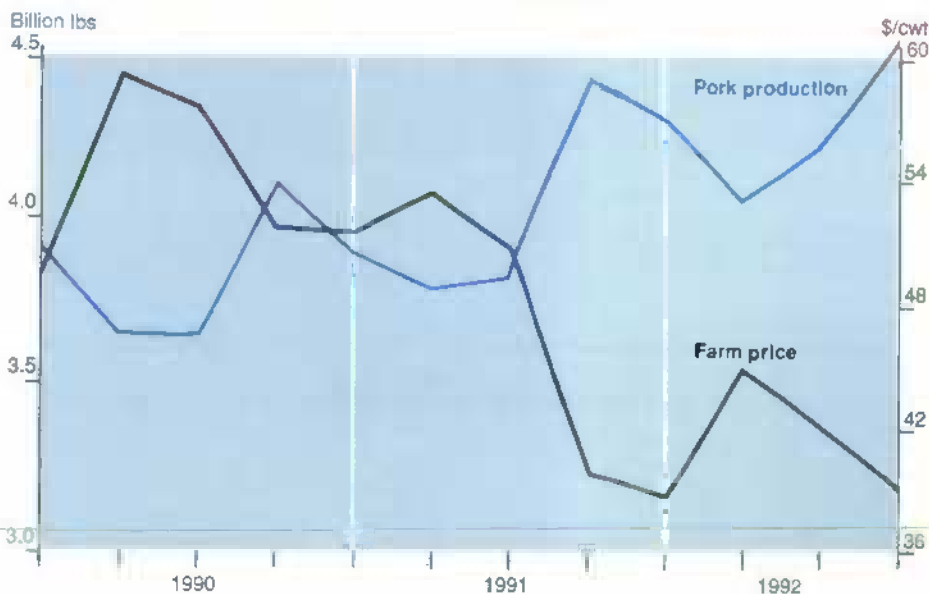
The June *Hogs and Pigs* report implies slaughter rates about 10 percent higher than a year earlier in the third quarter, and prices falling to the low \$40's per cwt. Fourth-quarter slaughter is expected to be up 4 percent and prices averaging in the high \$30's to low \$40's per cwt.

If producers follow their June 1 intentions, slaughter in first-half 1993 should be about 3 percent above the same period in 1992. Hog prices should average near \$40 per cwt.

Beef Exports On the Rise

U.S. beef exports during January-April 1992 were nearly 13 percent higher than a year earlier, at 418 million pounds. Japan remains the largest customer for U.S. beef, but exports to Korea and Mexico jumped 50 percent, and shipments to Canada were up nearly 7 percent. Beef exports to Pacific Rim countries likely will continue at their current pace, and recent developments in U.S.-Mexican trade relations could have an impact on future exports to Mexico.

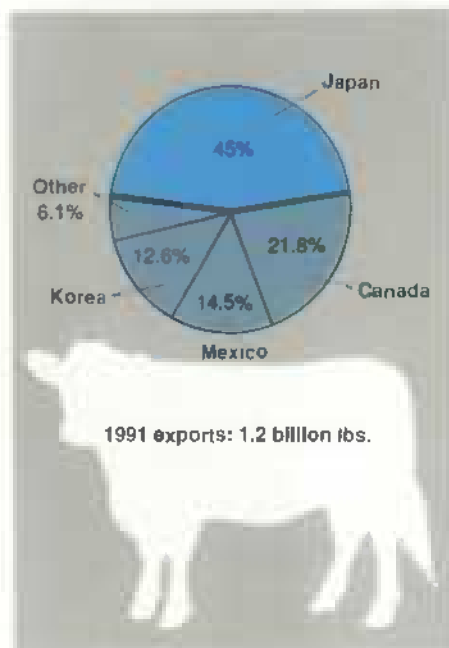
Pork Prices Are Expected To Slide as Production Soars



Third and fourth quarter 1992 forecast.

Commodity Overview

Most U.S. Beef Exports Go to Japan



Meanwhile, sharply higher beef imports from Australia during 1992 led to negotiations between U.S., Australian, and New Zealand officials to restrict imports into the U.S. the rest of the year. A voluntary restraint agreement (VRA) was negotiated to insure that shipments remain below the Meat Import Law trigger of 1.31 billion pounds, product weight, for the rest of 1992.

U.S. imports of beef from all sources during the first 4 months were running 12 percent above the year before, with a 54-percent increase in beef imports from Canada. Imported beef was equivalent to about 12 percent of domestic production during the first 4 months of both 1991 and 1992, but domestic production has risen nearly 2.5 percent from last year.

During the summer quarter, U.S. beef imports are expected to decline from a year earlier. This trend is expected to continue into the fourth quarter of 1992, bringing total 1992 imports to 2.37 billion pounds, carcass weight, down from approximately 2.4 billion in 1991.

Broiler Prices Slightly Lower During 1992

Broiler prices are expected to remain unchanged or just slightly below levels of

served last year, despite slower production growth and brisk export demand. Ample supplies of red meat and poultry will continue to depress broiler prices.

Rising pre-Memorial Day whole-bird prices, boosted in part by strong breast meat demand from fast-food chains, were not sustained after the holiday. Slack demand for breast meat during and after the Memorial weekend resulted in increased inventories and lowered prices. Second-quarter prices averaged 52.3 cents a pound, essentially unchanged from a year ago.

July prices received a boost from the Fourth of July weekend, but third-quarter prices are expected to remain in the low 50's, slightly below a year ago. Chicks that hatched in May, weekly chick placements in June and July, and slightly heavier slaughter weights indicate third-quarter production will be up 3 percent from 1991, compared with an 8-percent increase last year.

Slower broiler output growth than in first-half 1992, and fairly strong broiler export demand, should help support prices during the third quarter. But for the year, the 12-city wholesale price for broilers will likely average 47-53 cents a pound, slightly below a year ago.

On the retail side, price competition with other meats that are generally below year-earlier levels will continue to depress whole-broiler prices through the summer. Third-quarter prices for whole broilers are expected to be slightly below a year ago, and average in the mid- to high 80's.

U.S. broiler exports for 1992 will be near the record levels of last year. Increased sales in the Pacific region, particularly to Japan and Hong Kong, will account for about half of total exports. Higher sales are also likely to Mexico, Canada, the Caribbean, and the Middle East. The Export Enhancement Program (EEP) will finance most whole-broiler exports to the Middle East market. EEP sales to Egypt are resuming, after a halt during 1989-91. While exports to the former USSR are below last year, exports to many smaller markets have increased, including Central and South America and Romania.

Turkey Stocks To Remain High

Second-quarter turkey output is estimated up about 3 percent from a year earlier. Third-quarter production is expected to be up 2 to 3 percent above last year, and for 1992 overall the increase will be close to 3 percent. Poultry placements in April and May dropped below year-earlier levels and consequently, September's production is expected to be slightly below a year earlier.

The low production growth rates reflect consistently poor returns experienced by turkey producers in 1991. Wholesale turkey prices also remain below last year. In the second quarter, Eastern region hen prices were just under 60 cents per pound, compared with 62 cents last year. Hen prices have not moved up since late March, and in May, tom prices surpassed hens to average about 61 cents in the second quarter but also below a year earlier.

Stocks increased rapidly in May and reached a record 488 million pounds on June 1, over 7 percent above a year earlier. Whole-bird stocks, at 343 million pounds, were 6.7 percent above last year. Stocks are expected to remain high this year, in large part reflecting sluggish sales.

Record turkey stocks and large supplies of most meats, particularly pork, are pressuring prices. Consumers are benefiting from turkey specials at bargain prices. During the third quarter of 1992, prices are expected to firm seasonally but remain below a year ago.

During the first half of 1992, turkey consumption per capita remained about the same as a year earlier, and little change is likely this year. Using revised production numbers, per capita consumption is estimated to be about 18.1 pounds, compared with 18 last year.

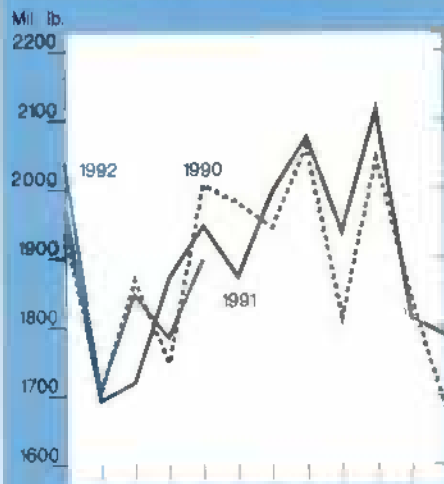
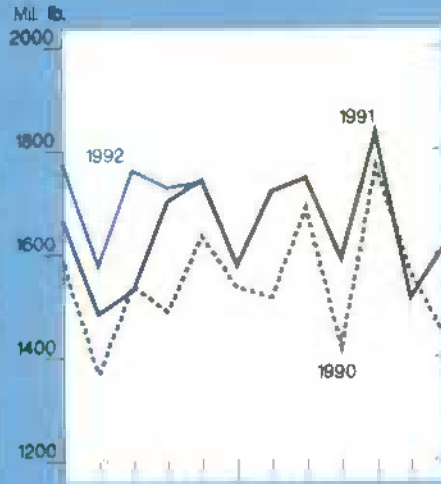
Higher Egg Output Lowers Prices

Table-egg production for 1992 is likely to increase 1-2 percent from last year. Second-quarter table-egg production was

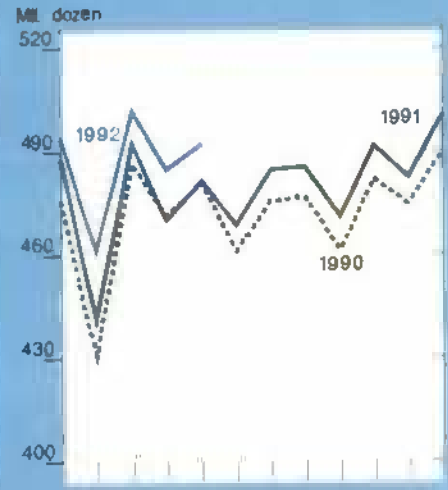
Livestock & Product Output

Commodity Overview

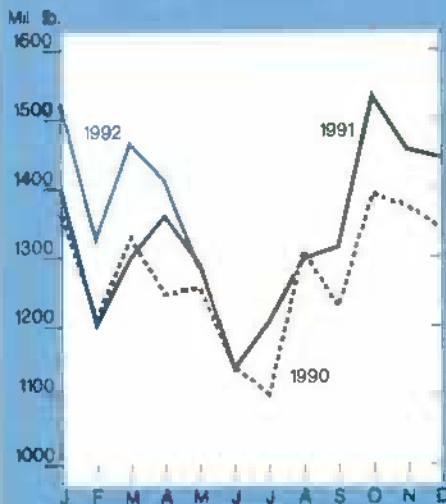
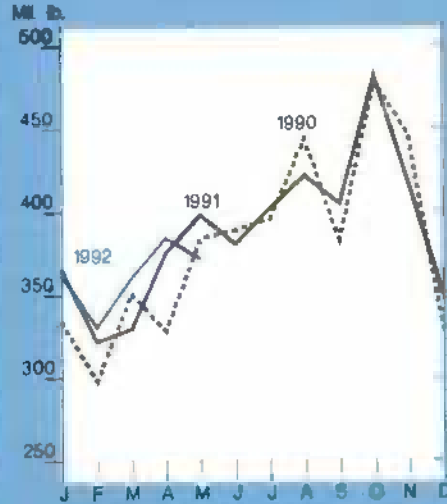
Commercial beef

Broilers¹

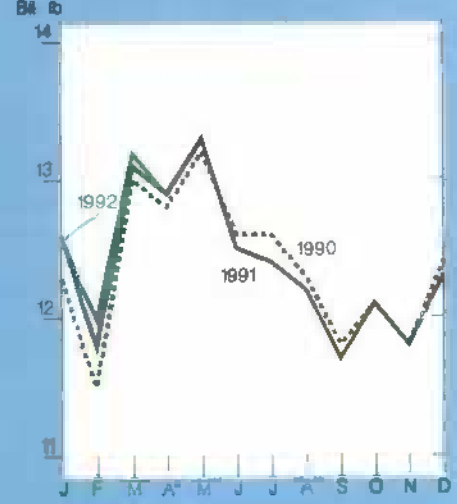
Eggs



Commercial pork

Turkeys¹

Milk



¹Federally inspected production, ready-to-cook.

more than 2 percent higher than a year ago, and estimated third-quarter production is expected to be 1-1.5 percent above last year. A 2.2-percent increase in table-egg production during the first half of 1992 depressed egg prices.

New York wholesale prices for Grade A large eggs are averaging well below a year ago, with second-quarter prices at 62 cents per dozen, down about 12 percent. Prices are expected to continue near breakeven for the rest of the year, and average around 65 cents for the third quarter. Prices are expected to average 64-68 cents per dozen for the year, compared with 78 cents last year.

On June 1, the total flock of 275 million hens was 1.2 percent larger than a year earlier, and the table-egg flock, at 230 million hens, was about 1 percent larger. The broiler-type hatching-egg flock was 2 percent larger than the year before, but the egg-type hatching flock fell 2 percent. While low prices will encourage flock size reductions, the number of laying hens is expected to average above a year ago.

Returns continued below breakeven during the second quarter, but profitability will probably return during the second half, as producers begin to reduce their flocks. Average returns for the year are expected to be near breakeven, far better

than the bleak year of 1988, but still well below levels seen in 1989-91.

Lower retail egg prices are likely, with second-quarter prices averaging in the low 80's per dozen, compared with 93 cents a year ago. Prices are expected to rise to the high 80's per dozen by the end of the year, and should average around 87 cents for the year, 12 percent below last year.

Lower Prices To Boost Egg Exports

Egg exports are expected to increase 2 percent in 1992, reaching the highest

Commodity Overview

level in 10 years—158 million dozen, shell equivalent—as lower egg prices give the U.S. a competitive edge. Exports will represent about 2.5-3 percent of total production.

First-quarter egg exports were 40.5 million dozen equivalent, the highest since 1982 and valued at \$35 million. At \$9 million, egg product sales to Japan made up about 25 percent of the value of egg exports. Canada and Hong Kong accounted for an additional 18 and 15 percent of export value. EEP sales remain important in determining the 1992 export level. Through April EEP sales were about double those for the same period a year earlier.

Will Milk Output Rebound?

Milk production remained relatively weak during the first 6 months of 1992, even though milk prices averaged 13 percent above a year ago. Output (adjusted for leap year) was essentially unchanged from a year earlier. Many expansion plans were shelved after prices fell in 1991, and more farmers left the industry in response to low incomes.

In June, however, milk production increased 2 percent from a year ago, and for the second half of 1992, production is expected to grow about 1 percent. The all-milk price is expected to average close to \$14 per cwt for the second half of the year, up \$1 from last year's second-half average. If producers become confident of an extended period of favorable prices, they are likely to shed some of their recent caution about new investment and debt, and expand production. Producer exit may also decline.

Total 1992 milk production is projected to be 150 billion pounds, up fractionally from 1991. Increases in output per cow will just overcome the decrease in cow numbers. Over time, the ability to maintain trend increases of 250-300 pounds per year in milk per cow has been a major force in shaping the dairy industry.

These gains resulted from genetic and management improvements and from heavier feeding of grain and other concentrates.

For further information, contact: Richard Stillman and Agnes Perez, coordinators; Steve Reed and Linda Bailey, cattle; Leland Southard, hogs; Lee Christensen, Agnes Perez, and Larry Witucki, poultry; Jim Miller and Sara Short, dairy. All are at (202) 219-1285. **AO**

Field Crops Overview

Domestic Outlook Based on July Projections For 1992/93

A Larger U.S. Wheat Crop . . .

- Due to increased harvested area (up 5.4 million acres from 1991/92) and higher yields (up 1.1 bushels per acre).
- A relatively low carryin could mean tightest wheat supplies since 1975/76, despite higher production.
- Relatively tight supplies leading to higher prices, ranging from \$3.05-\$3.45 per bushel for the season, and lower use.
- Domestic use and exports both down 8 percent, helping boost ending stocks to 521 million bushels, up 10 percent from 1991/92. Stocks-to-use ratio, at 23.4 percent, remains well below the 35.4 percent of 1990/91.

A Larger Corn Crop as Well . . .

- Corn output for 1992/93 to be 13 percent higher than the 1991/92 estimate, reflecting larger area and

higher yields. Supplies expected up nearly 6 percent.

- Domestic use up marginally, due to expectations of relatively tight supplies for barley and oats, higher wheat prices, lower corn prices, and continued livestock expansion. Exports expected to remain flat.
- With a rebound in supplies and only slightly higher use, ending stocks to reach 1.52 billion bushels, 42 percent above 1991/92's forecast.
- Reflecting the increase in supplies and stocks, the season-average price will likely range from \$2 to \$2.40 per bushel, compared with \$2.35-\$2.40 expected for 1991/92.

A Slightly Smaller Soybean Crop . . .

- At 1.975 billion bushels, down marginally from last year's relatively high level, the result of slightly lower yields. Harvested area forecast at 58.0 million acres—the same as 1991/92.
- With lower expected carryin than in 1991/92, and the slight production drop, supplies to be down about 1 percent in 1992/93.
- Soybean use, still high, down very slightly due to a marginal drop in exports. Crush to remain at 1991/92's relatively high level, and soybean oil use up slightly.
- With lower supplies and continued high use, ending soybean stocks—at 285 million bushels—would be down 8 percent from the carryin projection.

Lower Cotton Production . . .

- Down 9 percent from 1991/92's relatively high level, due to smaller area and cool, wet weather in west Texas early this summer. Supplies down 1 percent.

Commodity Overview

U.S. Field Crops—Market Outlook at a Glance

	Area		Yield	Production	Total supply	Domestic use	Exports	Ending stocks	Farm price
	Planted	Harvested							
	-- Mil. acres --		Bu/acre			-- Mil. bu --			\$/bu
Wheat									
1991/92	69.9	57.7	34.3	1,981	2,885	1,137	1,275	472	3.00
1992/93	72.3	63.1	35.4	2,232	2,744	1,048	1,175	521	3.05-3.45
Corn									
1991/92	76.0	68.8	108.6	7,474	9,016	6,395	1,550	1,071	2.35-2.40
1992/93	79.3	72.2	--	8,450	9,531	6,465	1,550	1,516	2.00-2.40
Sorghum									
1991/92	11.0	9.8	59.0	579	722	354	275	93	2.25-2.30
1992/93	12.4	11.2	--	730	823	435	260	128	1.90-2.30
Barley									
1991/92	8.9	8.4	55.2	464	625	395	100	130	2.10
1992/93	7.8	7.3	50.9	371	521	340	75	106	1.95-2.35
Oats									
1991/92	8.7	4.8	50.6	243	494	365	2	127	1.20
1992/93	8.0	4.8	53.5	256	448	340	1	108	1.15-1.55
Soybeans									
1991/92	59.1	58.0	34.3	1,986	2,320	1,235	680	310	5.60
1992/93	59.0	58.0	--	1,975	2,290	1,235	675	285	5.00-6.20
			Lb/acre			-- Mil. cwt (rough equiv) --			\$/cwt
Rice									
1991/92	2.86	2.75	5,617	154.5	184.5	92.8	61.0	30.7	7.50-7.55
1992/93	3.03	2.97	--	166.0	202.7	94.3	74.0	34.4	6.25-7.25
			Lb/acre			-- Mil. bales --			¢/b
Cotton									
1991/92	14.1	13.0	652	17.6	20.0	9.5	6.8	3.8	58.30*
1992/93	13.6	--	--	16.0	19.8	9.7	6.7	3.5	--

Based on July 9, 1992 Supply and Demand Estimates.

*Weighted-average price for August-March; not a season average.

See table 17 for complete definition of terms.

- Total use up 1 percent from the 1991/92 estimate, with domestic use up 2 percent due to continued strong mill use. But exports down due to reduced U.S. supplies and sluggish foreign demand.
- Ending stocks at 3.5 million bales, with marginally lower supplies and slightly higher use. Stocks-to-use ratio forecast at 21.3 percent, below the 23.3 percent expected for 1991/92.

... & Increased Rice Production

- A rice crop of 166 million cwt, more than 7 percent above the 1991/92 estimate, due mainly to an expected 200,000-acre increase in harvested area. Total supplies to be up almost 10 percent.

- Increased supplies putting downward pressure on prices. Season-average prices should range between \$6.25 and \$7.25 per cwt, down from the \$7.50-\$7.55 expected in 1991/92.
- Total use expected up more than 9 percent, with domestic use up slightly, and exports—responding to lower prices—up 21 percent.

A Look at State-Level Crop Production

[illegible]

U.S. - 6%	Percent change in yield, 1991-92
-29%	Percent change in output, 1991-92

[illegible]

U.S. - 3%
+16%

U.S. - 8%
-20%

A map of the United States where each state is labeled with its abbreviation and a number. The numbers represent the count of states within that specific region that have a higher percentage of the population aged 65 and over compared to the national average of 12.5%. The regions and their respective state counts are as follows:

- Northwest:** MT (-14), WY (-27)
- Southwest:** AZ (-13), NV (-13)
- North Central:** ND (+4), SD (+29), NE (-1)
- Central:** IA (+10), MO (+26), IL (+5), IN (-5), OH (+10), PA (+23)
- South Central:** TX (+15), OK (+9)
- South:** MS, AL, GA, SC, NC, VA, WV, KY, TN, AR, LA
- East:** ME (+72), NH (+68), VT, MA, CT, RI, NJ, DE, MD, PA

U.S. +6%
+6%

Output Update

Durum & Barley Down, "Other Spring" Wheat a Record High

The *July Crop Production* report provides state-level forecasts of harvested area, yields, and production for selected crops. It includes the first survey-based, state-by-state forecasts for durum wheat, "other spring" wheat, barley, and oats for the 1992/93 season, and contains revised state-level projections for winter wheat.

The report indicates that "other spring" wheat production, which mainly reflects the hard red spring crop, is forecast at a record-high 584 million bushels. Although U.S. average "other spring" yields are expected down slightly from last year, harvested area is expected to be the highest since 1953. In North Dakota and Minnesota, two of the major producing states, harvested area for "other spring" is expected up 33 percent above the estimate for 1991/92, largely in response to increased plantings.

Many Northern Plains producers appear to have planted "other spring" wheat—and, in Montana, winter wheat—at the expense of durum and barley. While "other spring" area is expected up substantially in North Dakota, durum acreage in that state—which accounts for about 90 percent of U.S. durum harvested area—is forecast down 25 percent. And total barley acreage in Montana and North

Dakota—which accounts for over 50 percent of U.S. barley acres—is down more than 16 percent.

These acreage shifts help contribute to the expected decline in durum wheat and barley production in 1992/93. With the U.S. average durum yield forecast down slightly, due mainly to dry weather, production is forecast at 73.9 million bushels, the lowest since 1983. And with barley yields expected off almost 8 percent, production of that crop is pegged at 371 million bushels, the fourth-smallest barley crop since 1960.

Shifts in acreage among alternative crops largely reflect differences in expected net returns, particularly on flex acres. While Montana growers likely found increased winter wheat plantings most attractive, hard red spring acreage likely appeared most profitable to many producers in North Dakota. A North Dakota producer planting this past May could expect returns (net of variable costs) of \$95 per acre for hard red spring wheat. In contrast, expected net returns per acre for durum were about \$70, and \$60 for barley.

Harvested area in 1992/93 for oats—another major crop in the Northern Plains—is forecast at 4.795 million

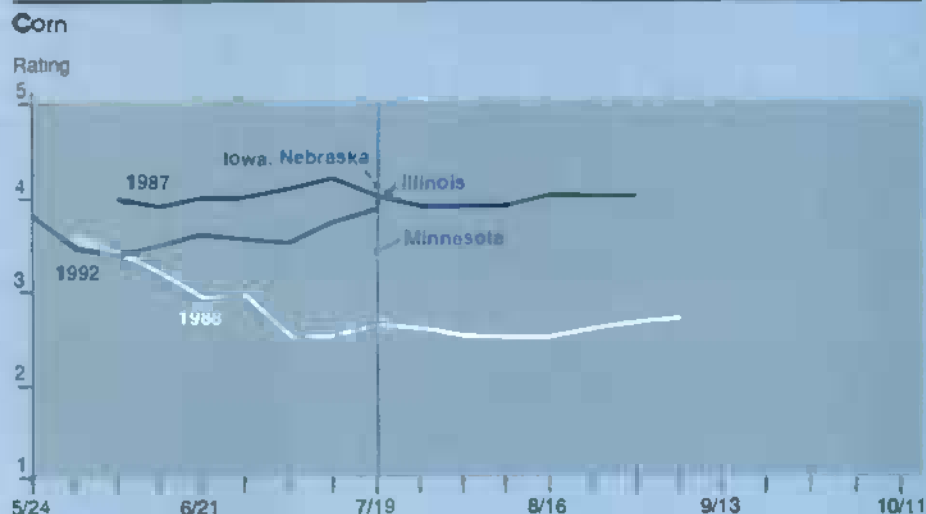
acres, down slightly from last year, and well below the 30 to 40 million acres harvested during the 1950's. But with oats yields up moderately in 1992/93, production is forecast up 6 percent from the 1991/92 estimate, at 256.4 million bushels. This would be the third-smallest oats crop since 1950.

Net returns also help explain the steady decline in harvested area for oats. Again, using North Dakota as an example, a producer examining net returns this past May could expect only about \$20 per acre for oats—well below expected net returns for barley, wheat, and other crops. Much of the oats crop is used for on-farm feed rather than being sold as a cash crop.

The *July Crop Production* report also provides revised information for winter wheat, and indicates that production is expected up 15 percent in 1992/93. The rise is due to a forecast 8-percent increase in harvested area, mainly reflecting increases in the Pacific Northwest, Montana, Oklahoma, and Texas. Winter wheat yields are expected up 6 percent nationally, with yields for soft red winter wheat, which is grown mainly east of the Mississippi River, showing the greatest rebound. [Joy Harwood (202) 219-0840]

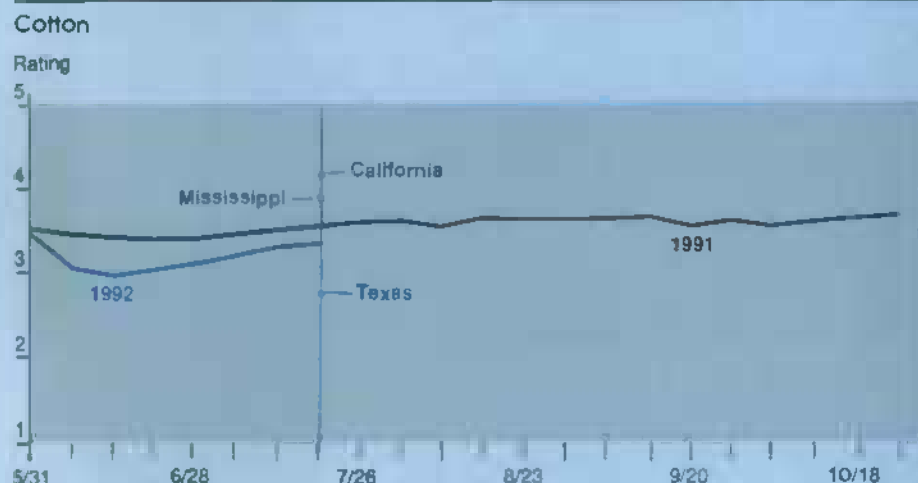
U.S. Field Crop Progress at a Glance

Timely Rains Help Corn and Soybeans

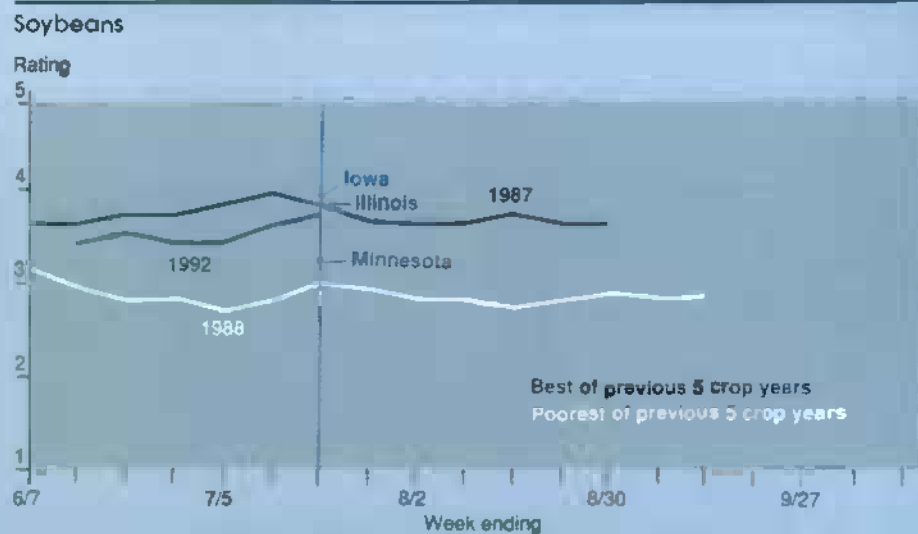


Timely rains fell in many areas in June and July, leading to generally good corn and soybean ratings in major states. Crop ratings showed a strong gain in both the second and third weeks in July. Much of the rebound is due to rains averaging several inches over widespread areas in the Corn Belt. An average of almost 3 inches fell in Iowa during the week of July 5, resulting in the wettest week in that state in 15 months. Parts of Indiana received up to 5 inches, with generally smaller amounts in Illinois.

Overall, 80 percent of the corn crop was rated good or fair as of July 19, 16 percent rated excellent, and 4 percent poor or very poor. Crop conditions were best in the East and South, and in Iowa and Nebraska.



Nationally, the soybean crop rating is similar to corn. A full 87 percent of the soybean crop was rated good or fair as of July 19, with 10 percent rated excellent and 3 percent poor or very poor. The best conditions were in parts of the South, and in Iowa, Kansas, Nebraska, and South Dakota.



Despite early corn and soybean plantings, cooler-than-normal weather in May and June resulted in slower-than-normal development. As of July 19, 30 percent of the corn crop was silking in the major states, behind the average of 49 percent. Blooms were evident on 46 percent of the soybean acreage in the major states, 7 points behind the average.

The cotton crop is also developing behind schedule, with bolls setting on 37 percent of the major states' acreage. That pace lags the average by 5 points. Cotton crop conditions have improved in the major producing states, following damage caused by cold, wet weather in May and June that clouded crop prospects in Texas and New Mexico. As of July 19, 16 percent of New Mexico's acreage and 33 percent of Texas acreage was rated poor or very poor. Cotton replanting had neared completion by the second week in July. *[Joy Harwood (202)*

1 = Very poor; 2 = Poor; 3 = Fair; 4 = Good; 5 = Excellent

Commodity Overview

Global Outlook: Initial 1992/93 Projections

Global Oilseed Output To Rise...

- ... As gains in soybeans and sunflowerseed offset losses in rapeseed, cottonseed, and peanuts.
- Sunflowerseed production up, to 22.5 million tons, as yields in Argentina, the EC, the former USSR, and others recover from 1991/92.
- But rapeseed output to retreat from 1991/92 records in the EC, India, and China, with output declining 4

percent to 27.2 million tons. Cottonseed also down to 36 million tons, because of China's drop, and peanuts off slightly at 22.3 million tons.

Tougher Soybean Competition...

- ... As increased foreign exports and sluggish demand growth restrain U.S. soybean and soybean meal exports.
- South American soybean plantings likely to be influenced by weather patterns in the U.S. and changing prices. Anticipated higher returns could boost production in Brazil and Argentina to 19 and 10.8 million tons.

- Global soybean exports moving up only slightly and meal exports rising because of higher crush expected in South America.
- But lower world carryin of vegetable oils could maintain U.S. soybean oil exports close to 1991's relatively high level. This despite larger palm oil supplies.

A Boost in Global Cotton Supplies...

- ... As world stocks continue to rise rapidly, reflecting production that outstrips consumption.
- The 93-million-bale crop, 2 percent below 1991/92, is still the second-largest ever. Most of the decline due to the U.S., while foreign production slips only slightly to 77 million bales.
- China's area increased—just short of its 1984/85 record—encouraged by recent, more stable returns to cotton than to grain. But without last year's ideal harvest weather, yields could suffer.
- Higher output in India and Pakistan, helped by higher yielding varieties. But Central Asian republics of the former Soviet Union continue reducing area because of environmental problems, and yield gains still insufficient to offset the drop in area.
- The second consecutive global consumption record, with growth concentrated in major producing countries such as Pakistan, China, and India.
- Larger foreign exports imply a dip in, but still about average, U.S. market share of 29 percent.

Global Grain and Oilseed Crops Higher In 1992/93,
but Cotton Lower

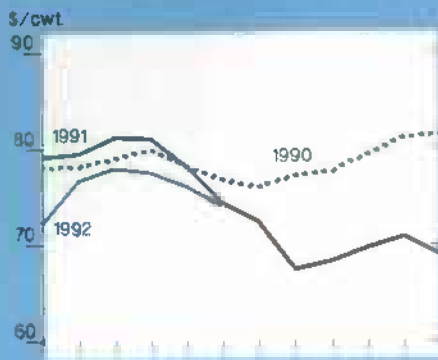
	Year ¹	Production	Exports ²	Consumption ³	Carryover
		Mil. tons			
Wheat	1991/92	541.3	107.2	553.0	131.1
	1992/93	543.8	101.7	546.1	128.7
Coarse grains	1991/92	798.4	91.9	805.7	128.7
	1992/93	823.8	86.9	813.0	139.5
Corn	1991/92	483.5	60.3	486.5	77.0
	1992/93	510.3	57.7	496.8	90.5
Rice (milled)	1991/92	347.0	13.4	351.6	53.8
	1992/93	351.4	13.3	354.3	50.9
Oilseeds	1991/92	221.3	35.5	182.5	22.9
	1992/93	222.8	35.6	184.6	21.4
Soybeans	1991/92	105.0	27.2	90.2	19.2
	1992/93	106.6	27.8	90.9	18.4
Soybean meal	1991/92	71.4	26.7	71.8	3.3
	1992/93	71.9	26.8	72.2	2.9
Soybean oil	1991/92	16.4	3.8	15.9	2.1
	1992/93	16.5	3.8	16.4	2.1
		Mil. bales			
Cotton	1991/92	95.2	22.8	85.6	38.3
	1992/93	92.8	23.0	88.5	42.0

¹ Marketing years are: wheat, July/June, coarse grains and corn, October/September, oilseeds, soybeans, meal, and oil, local marketing years except Brazil and Argentina adjusted to October/September; cotton, August/July. ² Rice trade is for the second calendar year. ³ Crush only for soybeans and oilseeds.

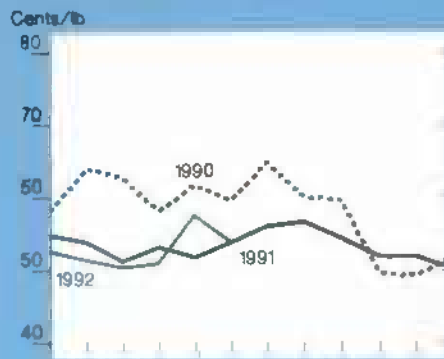
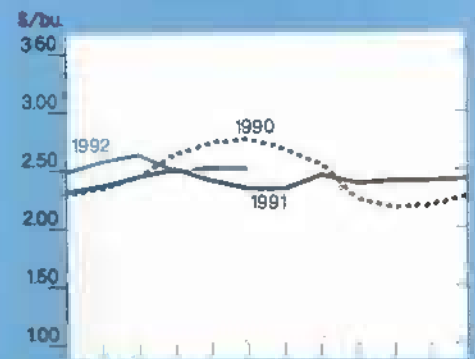
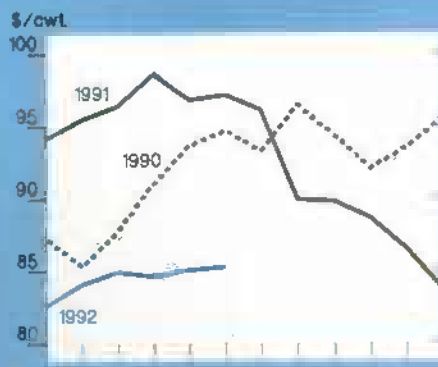
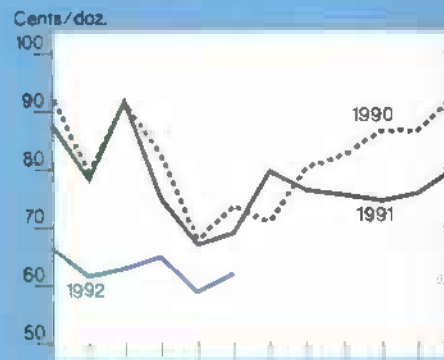
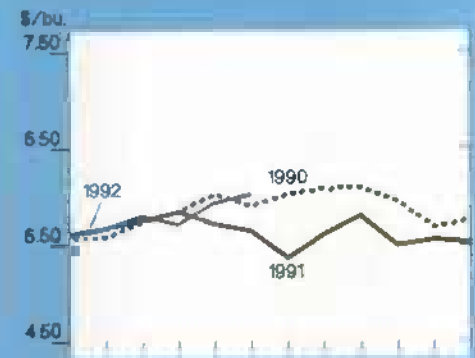
Commodity Overview

Commodity Market Prices

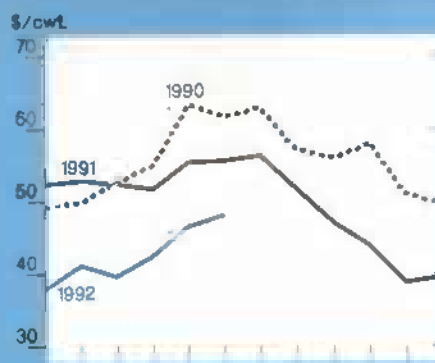
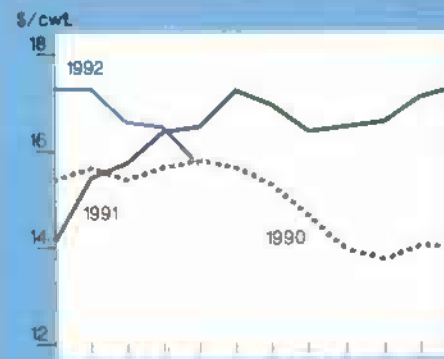
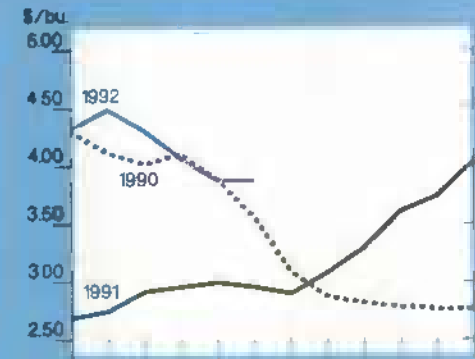
Choice steers, Nebraska



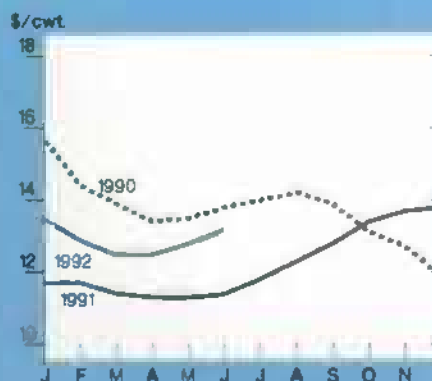
Broilers, 12-city average

Corn, Central Illinois¹Medium steers, Oklahoma City²Eggs, New York³Soybeans, Central Illinois⁴

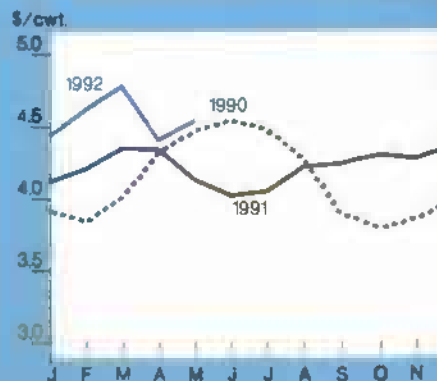
Barrows and gilts, 6 markets, Omaha

Milled rice, SW Louisiana⁵Wheat, Kansas City⁶

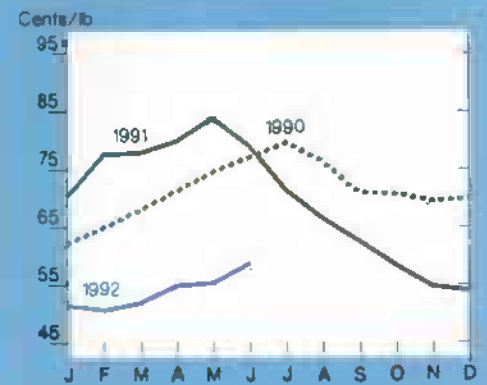
All milk



Sorghum, Kansas City



Cotton, average spot market



And World Rice Output Up Slightly . . .

- . . . As area increases.
- Output in China, the largest producer, up only marginally to 185 million tons as policy changes restrain growth. India's production grows to 73 million tons, although the late and erratic monsoon is creating some concern.
- Calendar 1993 trade matches 1992, with reduced Indonesian imports—reflecting a larger crop—offset by greater imports by the Middle East.
- Rising U.S. rice exports and market share benefit from the rebound in U.S. supplies, slower growth in domestic use, and slightly reduced foreign exports. Thailand's exports to be down 4 percent, while exports from Pakistan and Vietnam remain unchanged.
- And global ending stocks could slip slightly as use reaches a new record.

[Joy Harwood (202) 219-0840 and Carol Whitton (202) 219-0824]

For further information, contact: Sara Schwartz, world food grains; Edward Allen, domestic wheat; Janet Livezey, domestic rice; Pete Riley, world feed grains; Tom Tice and Jim Cole, domestic feed grains; Nancy Morgan, world oilseeds; Roger Hoskin and Scott Sanford, domestic oilseeds; Carol Whitton, world cotton; Bob Skinner and Les Meyer, domestic cotton. World information (202) 219-0920, domestic (202) 219-0840. **AO**

Specialty Crops Overview

Although farm water supplies are down in the Pacific Northwest, the result of continuing drought and above-normal temperatures, growers minimized the effects on potato and vegetable output by diverting water from lower value crops. Potato growers expect lower harvested acreage in 1992, following near-record high fall production and low prices in 1991.

U.S. apple production is expected higher in 1992, especially in the Western states where most apples are grown and stored for fresh use later in the season. Sugar-cane and sugarbeet growers expect to harvest more acreage in 1992. The output forecast for flue-cured tobacco is 2 percent lower than last year. [For the latest specialty crop outlook, see tables 20-22.]

Drought & Heat Hit Vegetable Area

Continuing drought and above-normal temperatures in the Pacific Northwest slashed water supplies for some potato and vegetable farmers. But growers minimized the effects of drought on vegetable output by diverting water from lower value crops such as hay and small grains.

Growers in Idaho and Oregon, especially in the Klamath basin (Northern California and Southern Oregon), face the most severe water shortages. In some areas of the Pacific Northwest, rainfall has been below normal for 6 consecutive years.

An early summer frost lightly damaged some potatoes and processing vegetables in the upper Midwest where a large share of U.S. sweet corn, green peas, and snap beans is grown for canning and freezing. However, the frost will have minimal impact on overall production.

Fall Potato Acreage Down from 1991

Potato growers expect lower harvested acreage in 1992 than last year, following near-record high fall production and low prices in 1991. Forecast harvested acreage for fall 1992 dropped to 1.122 million acres—down 5 percent from 1990 and 1991. Fall potatoes usually account for about 87 percent of U.S. annual production and largely determine potato prices during the next 12 months.

Producers in the western potato states, where processing is heavily concentrated, reduced planted area by 6 percent. Western growers also produce many of the Russet potatoes frequently thought of as fresh baking potatoes. Acreage in Idaho and Washington, the two largest producer states, is down 4 and 13 percent from last year.

Central states producers reduced planted area for fall harvest by 6 percent. Minnesota and North Dakota both reduced acreage by 8 percent. Michigan's acreage rose by 6 percent.

Eastern producers reduced planted area by 3 percent. Maine's acreage remained unchanged but Pennsylvania and New York acreage declined. Maine's harvested area may rise this season because part of its 1991 crop was lost due to excessive rains at harvest. Eastern production is heavily concentrated among the round white varieties typically used fresh or for processing into chips.

Summer potato production is estimated at 20.5 million cwt, down 10 percent from 1991. Beginning this year, USDA is including the 5,000-6,000 acres in northwestern New Mexico's summer crop with fall production. If this output were included in this year's summer crop, the total would be about the same as last year's.

If yields from the fall crop at least match the average (306 cwt per acre) for the past 3 years—which included a year of low yields due to dry weather—fall production could tally 343 million cwt, in which case total output for all four seasons would be about 390 million. Total

Commodity Overview

output was 418 million cwt in 1991, and 402 million in 1990.

Prices will probably recover from 1991/92's reduced levels due to the smaller crop. As a rule of thumb, the season-average grower price rises about 4 percent for each 1-percent decline in total production. But actual price movements may vary, depending on demand, and on the size of fresh and processed potato stocks at the beginning of the fall season.

Western Apple Production Higher

The July 1 forecast placed 1992 U.S. apple production at 10.1 billion pounds, 2 percent higher than in 1991 and the second-largest crop ever. Forecasts for the Western states are higher, while production in the Central and Eastern areas fell from last season.

Strong domestic and export demand for fresh apples, combined with a short 1991 crop in the Western states, boosted fresh apple prices this past season. A larger western crop and a recovery of European production may soften prices in 1992/93. Western production typically provides most of the late-season fresh apples from storage.



Despite a larger crop in California, forecast 1992 peach output slipped 6 percent from last year, due to lower Eastern states output. Production will fall in South Carolina and Georgia where several freezes occurred in March and April. At the end of June, growers' prices for the fresh-market peaches were lower in California, but higher in the Southeast than the year before.

Apricot, nectarine, and plum production are forecast higher than last year. California, the major source of all three fruits, expects larger crops in 1992.

USDA's July forecast places California's 1992 walnut crop at 220,000 tons in-shell basis. This would be 15 percent less than in 1990/91. The California almond crop forecast was lowered to 550 million pounds (shelled basis).

Abundant fruit crops have put downward pressure on prices. The index of prices received by farmers for fresh fruit stood at 200 (1977 = 100) in June, down from 410 in June 1991. All citrus prices are below a year ago. Fresh orange prices were unusually high in 1991 because of a short crop in California due to a mid-winter freeze.

Sugar Output Near Record

Early prospects point to record sugar production in 1992/93. USDA expects sugar production to reach 7.6 million short tons, raw value, 400,000 tons higher than in 1991/92. Increased recovery of sugar per ton of beets will account for most of the production rise. The recovery rate fell in 1991/92 when above-normal winter temperatures in the upper Midwest caused sugar loss among stockpiled beets.

Harvested acreage for both sugarcane and beet crops is expected 3.5 percent higher in 1992/93. Florida reports 7,000 more sugarcane acres than in 1991, a record 450,000 acres. Louisiana acreage should increase 45,000 in 1992/93 to 390,000. Total sugarcane acreage, including Texas and Hawaii, amounts to 952,000.

Forecast sugarbeet acreage rose 24,200 acres from 1991 to 1.41 million. Some increase occurred in nearly all 13 sugarbeet growing states. The biggest increases occurred in Michigan and Texas, both up 8,000 acres.

Flue-Cured Tobacco Output Lower

USDA forecasts flue-cured tobacco production 2 percent lower in 1992. Lower yields are offsetting a 1-percent increase in harvested area. Grower prices also are expected lower due to declines in both domestic use and exports. Both domestic cigarette consumption and exports are down resulting in reduced cigarette production. Also, use of imported leaf is rising as manufacturers attempt to hold the line on costs through use of cheaper leaf.

Disappearance of flue-cured tobacco in the 1991/92 marketing year (July to June) is forecast down about 13 percent from the year before. Despite the decline, disappearance is expected to exceed 1991 marketings slightly, and July 1 carryover into the new marketing year could be smaller than the year before. Marketings in 1992/93 will probably be above use, resulting in larger stocks at the end of the 1992/93 marketing year.

Burley disappearance for the 1991/92 marketing year (October to September) is also expected to drop from last season. A smaller disappearance and larger October 1 carryover stocks would put downward pressure on prices; however, the 6.5-cent increase in the support level will probably push prices up slightly. [Glenn Zepp (202) 219-0883].

For further information, contact: Dennis Shields and Diane Bertelsen, fruit and tree nuts; Gary Lucier, vegetables; Peter Buzzanell, sweeteners; Doyle Johnson, greenhouse/nursery; Verner Grise, tobacco; David Harvey, aquaculture; Lewrene Glaser, industrial crops. All are at (202) 219-0883. **AO**

Commodity Spotlight



What's in the Future for Canola?

Speculation on the future of canola ranges from a role as a niche crop for the specialty oils market, to a significant cash crop for U.S. farmers. Despite growing interest, however, no solid consensus exists on how production of canola and its principal byproduct, canola oil, will evolve in the U.S.

Canola is the popular name of rapeseed varieties that are low in erucic acid and glucosinolates, and therefore suitable for human consumption. Like soybeans, canola yields both oil and meal.

Since it obtained GRAS (Generally Recognized As Safe) status in 1985, interest in canola has grown in the U.S. Interest has been piqued more recently by perceived health benefits of canola, with the lowest saturated-fat content of major vegetable oils. With oil consumption and imports increasing, and in light of new farm program flexibility that increases the attractiveness of domestic canola production, attention has shifted to the potential opportunities for U.S. farmers and processors.

The ability of canola and its products to capture a share of U.S. oilseed markets and farm resources will depend on a number of factors. First, does a market for canola products exist, and if so, what factors drive the demand for these products, and products that compete with canola? Second, if demand exists, can the crop be profitable enough to attract resources from other crops and land uses?

Canola Is Making Inroads

Canola is the name given to seed, oil, and meal derived from rapeseed cultivars low in erucic acid and glucosinolates—elements that present potential health risks to humans and reduce the palatability and nutritional value as a feed. While many parts of the world continue to produce high-erucic varieties for human consumption, the so-called double-low varieties now dominate production in Canada and throughout Western Europe.

Worldwide production of all rapeseed has risen rapidly over the past two decades and now ranks third behind soybeans and cottonseed, accounting for 12 percent of world oilseed production in 1991. Rapeseed has also made substantial inroads into world oilseed trade. It ranks second in world seed trade, with Canada and France accounting for the majority of exports. It plays a less dominant role in oilseed products trade—palm oil continues to dominate world oil trade, while soybean meal commands the largest share of the meal market.

However, competitively priced rapeseed products continue to gain market share. Favorable oilseed policies in the European Community (EC), and more recently, Canada, have allowed rapeseed oil to capture 10 percent of the world vegetable oil trade, more than doubling since the late 1970's. Rapeseed meal trade has also expanded, accounting for roughly 7 percent of world meal trade in 1991—4 times the level of the early 1970's.

A member of the mustard family, rapeseed is suitable to colder climates in North America, Northern Europe, the

Soviet Union, and parts of Asia. However, until recently, rapeseed production in the U.S. has been small. Prior to 1985, production was geared towards specialized industrial uses. Accordingly, acreage remained small and was concentrated in areas of the Northern Plains, Northwest, and parts of the southern Corn Belt. In 1982, for example, only 65 farms reported harvested acreage of rapeseed, with total area of 6,382 acres. Of this, roughly 95 percent of the production acreage was located in just three states: North Dakota, Montana, and Kentucky.

In January 1985, the Food and Drug Administration granted GRAS status for low erucic acid rapeseed (LEAR) products. This includes canola seed, oil, and meal. Since then, area and production have expanded significantly, with planted acres reaching 135,000 in 1991, rising to an estimated 160,000 in 1992.

With ongoing development of varieties suited both to winter and spring plantings, canola production has stretched across the Southeast as far as Florida. In these areas, canola provides farmers with an alternative to fall planted crops such as winter wheat. Canola, however, remains a minor crop in the U.S., dwarfed by traditional commodities such as corn, wheat, and canola's principal competitor, soybeans.

The Joint Products Issue

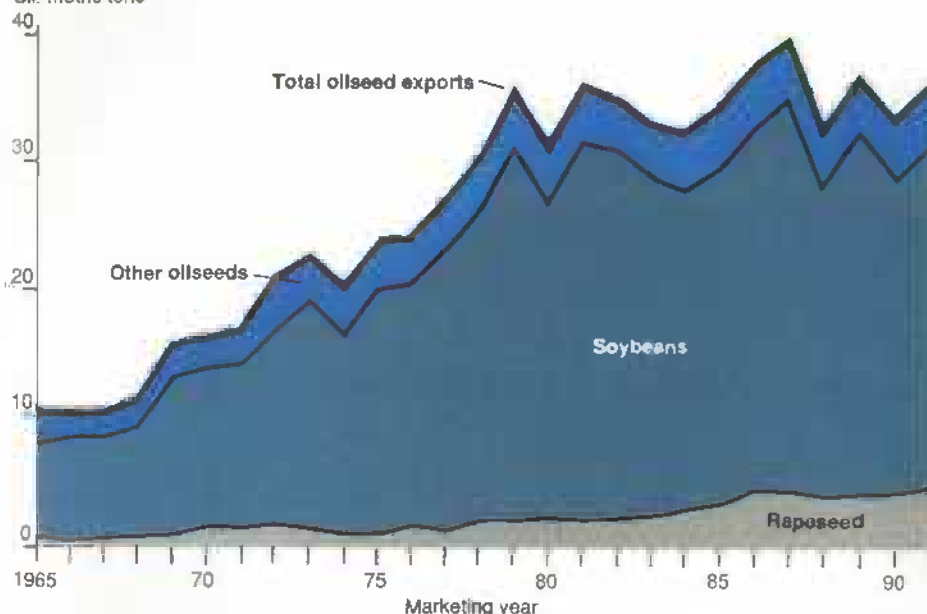
Oilseed meals and oil are considered to be joint products—i.e., two or more outputs produced in a single process. As joint products with fixed output ratios (40 percent oil and 55 percent meal in the case of canola), oil and meal markets are linked. For example, higher demand for protein meals can lead to higher meal prices and encourage crushers to process additional seed. Increased crush results in a larger supply of vegetable oil. In the absence of similar shifts in the demand for oil, increased supplies will result in lower oil prices.

In markets where vegetable oils are readily substitutable, this will force down prices of competing oils. As a consequence, the prices for oilseeds with

Commodity Spotlight

World Rapeseed Exports Grow, but Soybeans Dominate Oilseed Shipments

Bil. metric tons



Other oilseeds include cottonseed, peanuts, sunflowerseed, and minor oilseeds.

higher percentages of oil will be lower than for those with higher meal percentages.

These relationships are important when considering the potential market for canola oil and seed in the U.S. market. Demand for soybean meal has driven global soybean crush in recent years. For canola, however, demand has been driven by oil prices.

Continued growth in the use of high-protein meals will increase the availability of soybean oil, pressuring prices in the bulk-oil markets. Outside the markets where consumer preferences distinguish canola oil based on technical characteristics, increased supplies of soybean oil can lead to lower oil prices and ultimately force seed prices down should supplies increase significantly.

A Growing Demand For Oil

Canola is considered a "soft" oilseed, containing roughly 40 percent oil that typically accounts for 60-70 percent of the overall seed value. The oil is suitable for use in salad and cooking oils and in baking and frying fats. Further along the

marketing channel, canola reaches consumers in processed foods such as potato and corn chips, mayonnaise, and baked products. In these markets canola competes with other vegetable oils, including soybean, cottonseed, corn, and sunflowerseed oils.

Domestic use of canola in the U.S. is growing and is projected to reach 315,000 metric tons in the 1991/92 marketing year, up 185 percent from 1987/88. Canola has penetrated domestic cooking oil and salad dressing markets as well as more traditional bulk markets for shortenings and baking and frying fats. Canola's rapid rise in popularity is attributable to a number of factors relating both to the technical characteristics of the oil and market economics.

With growing concerns about the quantity and composition of dietary fat intake, canola has been aggressively marketed as an alternative to industry standards such as soybean and corn oils. Like all vegetable oils, canola is cholesterol free. Further, it has the lowest saturated-fat content—6 percent—of the major vegetable oils on the market. These attributes increase canola's attractiveness in markets that base preferences on these characteristics. For example, a 1991 survey

conducted by the Food Marketing Institute found that fat content topped the list of shoppers' nutritional concerns.

The potential size of this market, however, is unclear. Consumption of salad and cooking oils totaled 2.7 million metric tons in 1990, and accounted for 38.4 percent of domestic fats and oils consumed in food products. Of this, the more visible bottled cooking oils, and uses in products with fixed ingredient mixes, represent a significantly smaller subset.

A second factor in the recent growth of canola's popularity is price. While demand for specialty uses is generally thought to be inelastic (relatively less price responsive), movements into the bulk-oil markets where oils substitute for each other requires more competitive pricing. These include markets for baking and frying fats, and frying oil used for processed goods less reliant on oil characteristics to determine quality, taste, and marketability.

Comprehensive price histories for domestically produced canola oil are not readily available, and the price information that does exist reflects movements in relatively thin markets (small trade volume), reducing their usefulness for comparative purposes. However, with imports accounting for a large share of domestic canola consumption, it is useful to compare prices from major trade centers.

Since 1987, the price of Canadian canola (adjusted for exchange rates and import tariffs) has tracked the domestic soybean oil market closely. Even accounting for domestic tariffs, canola averaged \$0.33 per cwt below the price of soybean oil (f.o.b. Decatur) between 1987 and 1991. Lower prices make canola more attractive to domestic food manufacturers with the ability to shift among various oils.

These numbers, however, do not account for differences in transportation costs to primary end-use markets. It is thus possible that soybean oil could be more competitive in areas of the Midwest and South that are closer to primary production points. But in northern markets closer to Canadian processing centers, canola may prove more economical.

While it is difficult to isolate price effects from changes in consumer preferences, it is clear that rapeseed and rapeseed product imports are increasing. Between 1985/86 and 1990/91, canola oil imports increased from 273 million pounds to 532 million, and are estimated to reach 772 million pounds in 1991/92. Imports from Canada alone, the largest canola producer, accounted for nearly 85 percent of the imports over this period.

Still, canola oil consumption remains small relative to total oil use. Rapeseed oil consumption, of which canola represents a majority share, is projected to account for less than 5 percent of total domestic vegetable oil consumption in the 1991/92 marketing year.

While growing populations and increased incomes will likely fuel additional demand for all vegetable oils in the future, capturing additional market share would imply shifts away from competing oils. Swings in consumer preferences because of specific characteristics, such as lower saturated-fat content, can increase canola's share of the visible fats market. However, the value associated with these characteristics and the ability to acquire additional market share in the face of competitively priced alternatives is uncertain.

In the bulk and export oil markets, access and market share are likely to remain a question of price and policy.

Competing in the Meal Market

The second component of canola seed demand is meal value. Although meal is typically a smaller component of seed value, its price and its access to feed markets are important in determining processing margins and ultimately the price processors are willing to pay farmers for seed.

Demand for oilseed meal depends on the demand for balanced feed concentrates, which in turn is related to the size and composition of the livestock herd. Here, canola meal must compete with meal from soybeans, cottonseed, linseed, sunflower, and other high-protein feeds such as corn gluten and fish meal.

Demand for protein meal has risen significantly over the past few decades as feed concentrates replaced grazing and as the mix of livestock includes a greater share of animals, such as poultry, consuming higher protein feeds. Rising incomes and population growth have

increased the demand for meats. Changes in domestic food consumption, rising demand for meat, and increased availability of complementary feed components are factors that have increased the demand for higher protein feeds.

Canola meal accounts for 55-57 percent of the seed weight, in contrast to other oilseeds such as soybeans and cottonseed that contain in excess of 80 percent meal. Crude protein in canola meal varies by variety, generally ranging between 35 and 38 percent, significantly lower than soybean meal, the industry benchmark. Canola meal is also higher in fiber than competing high-protein solvents, and its feed value to ruminants, swine, and poultry is lower. Canola meal can work well as a dairy protein supplement or in rations for other ruminants. Lower protein, amino acid limitations, and higher fiber content, however, limit its use as a component in poultry rations and starter feeds for swine.

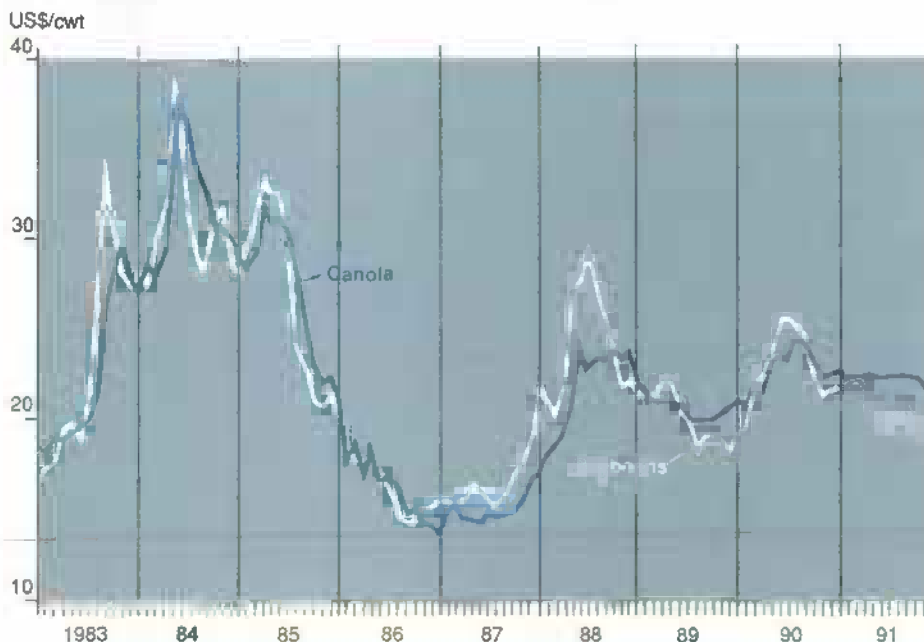
With a smaller market potential and lower feeding value, canola meal is typically discounted to soybean meal. The discount can expand when supplies of soybean meal are adequate to meet existing demand or when supplies of canola meal become excessive. Lower meal prices in turn can depress processing margins, leading processors to rely more heavily on oil and seed prices to direct their decisions on crushing.

Canada's Canola A Big Obstacle

With domestic consumption increasing, and supplied largely through rising imports, the debate shifts to prospects for U.S. producers. Conceptually, projected consumption of canola oil this year could support 1.5 million acres in the U.S., not of potential export markets. Will U.S. farmers fill the gap?

At the very least, a number of barriers must be overcome before canola progresses in American agriculture. Major obstacles can be categorized as risk, market access and foreign competition.

Canola Prices Have Exceeded Soybeans Since 1990



Commodity Spotlight

Risk. Yield and price risk is inherent in agriculture, and a wide variety of tools are employed to manage it. In terms of yields, common tools for managing risk include: the use of inputs that limit pest infestations, improve soils, or improve harvesting efficiency; development of specialized seeding and harvesting equipment; crop insurance; and development of new seed varieties targeted to specific climates and growing conditions. Tools for limiting exposure to price volatility include forward contracting, futures market activities (e.g., hedging or cross-hedging) and the addition of storage facilities to smooth out seasonal price movements.

With a relatively new crop in the U.S. commanding few acres and little market share, canola producers have fewer risk management tools. Few chemicals are registered for canola, many seed varieties are still in the development stage, and few alternatives are available for managing price risk. Moreover, canola is not currently eligible for federally subsidized crop insurance.

Market access. A second impediment to U.S. production is the lack of established markets to sell seed for processing into oil and meal. Although some areas in the West and Southeast have seen the development of new integrated market centers, there are few national marketing centers. With little volume, and with competitive prices for alternative products, processors and producers face a paradox.

Without the volume, processors are hesitant to allocate capacity in the absence of financial incentives. However, the financial incentives necessary to secure processing capacity can be provided only with higher prices for the output or lower input prices. In the face of stiff competition from the U.S. soybean complex and in the shadow of Canadian production, price premiums are difficult to maintain as production increases. This leaves seed prices to bear the weight. Lower seed prices, however, are unlikely to attract the acres or R&D necessary to increase volume.

Foreign competition. Only marginally protected under the 1990 farm bill, the industry has been increasingly exposed to foreign competition, most notably from Canada. Canola was developed in Canada, where farmers have experience with the crop, where it fits well into rotations, and where there are active markets providing the liquidity and support necessary for a major crop.

Canola has been affected by recent changes in U.S.-Canadian trade policy combined with new Canadian agricultural policy. As of January 1, 1992, as part of the U.S.-Canada Free Trade Agreement, canola products from Canada can move into the U.S. duty-free.

Moreover, the final elimination of the tariffs came on the heels of recent changes in Canadian agricultural policy that increase the attractiveness of canola. Canada's Gross Revenue Insurance Plan (GRIP) is designed to stabilize farm incomes by insuring producer revenues against yield and price variability. Its coverage of canola at rates initially higher than competing crops provides additional incentives to canola producers to increase production.

While it is hard to discern the longrun impacts on cropping patterns in Canada, the initial results are bearish for U.S. canola producers. In 1991, over 80 percent of the acreage participated in the GRIP. Combined with favorable market conditions, GRIP helped production increase nearly 25 percent, adding oilseeds to a market saturated by increased oilseed production in the U.S.

U.S. Role Is Still Minor

Since the introduction of edible forms into the U.S. market, canola has generated interest among consumers and producers. To date, however, consumer interest has surpassed that of domestic producers—letting imports fill the gap.

While domestic demand is increasing, canola's role in the U.S. market remains minor and its future uncertain. Specific technical characteristics such as lower saturated fat may continue to buy share

for canola in markets that differentiate according to such factors. In less visible bulk markets however, price is likely to remain the decisive factor.

On the farm, canola's future role is even more tenuous. Current demand can support up to 1.5 million acres, and potentially more if export markets develop. However, U.S. farmers are faced with a number of obstacles including risk considerations, lack of market access, and stiff competition from established Canadian producers. These are obstacles that can be overcome—but not without cost and effort. [Ian McCormick and Bengt Flyberg (202) 219-0840] **AO**

August Releases from USDA's Agricultural Statistics Board

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USA Poultry & Egg Export Council

Poultry Markets Go International

One of the world's fastest growing meat sources, output of poultry meat about tripled over the last 20 years, reaching about 88 billion pounds in 1990. Poultry includes mainly broilers, other chickens, turkeys, ducks, and geese, but broilers account for nearly 70 percent of the total.

Many countries can produce their own poultry at reasonable costs, because they are able to transfer modern production, efficient feeding, and processing techniques. That, together with widespread trade barriers, means most poultry is raised for domestic markets—only about 7 percent is traded internationally.

Still, potential exists for global poultry trade to expand. U.S. exporters, for example, are borrowing the marketing strategies used to promote domestic consumption—selling poultry parts and further-processed poultry rather than whole birds—to boost the volume and share of U.S. poultry traded worldwide.

Increased liberalization of trade barriers, as would occur with a successful conclusion to the Uruguay Round on multilat-

eral trade negotiations, would also help boost the volume of poultry traded.

This article, part of a series canvassing trends in world livestock, dairy, and poultry markets, takes a look at some key players in world poultry production and trade.

Developing Countries Hatch Poultry Industries

Growth in world poultry markets stems from increasing incomes and demand in developing as well as developed economies. In 1970, the developed economies produced 75 percent of world poultry meat; by 1990, their share had dropped to about 64 percent, as developing economies boosted output nearly 4 times to satisfy growing domestic demand.

Developing country exporters like Brazil, Chile, China, Thailand, and Malaysia, for example, boosted poultry meat output 90 percent from 1980 to 1990. Their share of world production rose from 16 percent to about 18.5 percent. Over the same period, Japan's and Canada's output rose 26 and 34 percent, and EC output rose 28 percent. Even the 65-percent growth in U.S. output pales by comparison with the performance of the developing exporters over that period, but the U.S. increased its share of world production slightly to nearly 30 percent.

Brazil and Thailand have fairly young, modern poultry industries, and both countries exemplify the dramatic changes that have taken place as developing economies adopted the technology of Western poultry production.

Brazil's poultry industry is highly concentrated—the five largest companies control about 75 percent of federally inspected domestic production, and over 90 percent of poultry exports. This is a recent change, however. Until the 1960's, even urban Brazilian consumers raised their own chickens, slaughtering them just before consumption. From the early 1960's to the mid-1970's, consumers visited local poultry shops, selecting live birds which shopkeepers would then slaughter.

In the 1970's, large public expenditures provided the Brazilian industry with new poultry facilities to encourage growth, particularly exports. Although Brazilian consumers initially rejected the small, white-skinned frozen birds, price advantages of frozen birds eventually overtook sales of traditional broilers, especially during highly inflationary periods. Frozen poultry now dominates Brazil's domestic market.

Thailand's poultry industry growth has been helped by a relatively open market economy, atypical of many developing countries. The industry employs modern technology, with the added advantage of relatively low-cost labor. Most estimates show Thai producers to be cost-competitive with the U.S.—one of the lowest cost producers worldwide.

Like Brazil, Thailand did not acquire large-scale, modern facilities until around 1970. That year, less than 2 percent of Thai farms raised more than 5,000 birds per year. By 1975, however, more than 96 percent of commercial growers raised at least 5,000 birds annually. In the U.S., by contrast, as early as 1959 nearly all broiler sales were from farms selling 4,000 or more birds annually.

Poultry exports are important to Thailand, as they are to Brazil. In 1980, about 53 million pounds, or 9 percent of Thailand's total production, was exported. By 1990, the proportion had more than doubled, to 24 percent of output, or about 317 million pounds. Japan is Thailand's largest outlet for exports, taking about 80 percent of Thailand's shipments in recent years.

KFC & McNuggets In Japan...

Japan is the sixth-largest poultry producer in the world, and in 1990 ranked as the second-largest importer after Germany. Unlike many countries, Japan has a poultry market that is mainly "boneless," with about 80 percent of all sales in deboned form. Japanese production ballooned from 204,000 metric tons in 1965 to nearly 1.5 million metric tons in 1987, but has been declining since, and

World Agriculture & Trade

output is channeled almost exclusively into domestic consumption.

In spite of its large output, Japan's poultry production costs are among the highest in the world. Operations are not as completely integrated as in the U.S. Instead of full ownership from hatching to slaughter, Japanese broiler farmers purchase chicks and feed from a middleman, raise the broilers, and then sell the chickens back to processors at an agreed price. Most feed ingredients are imported, and grain is imported almost exclusively by large trading and feed companies. The bottom line for Japanese broiler producers: production costs are about double those in the U.S.

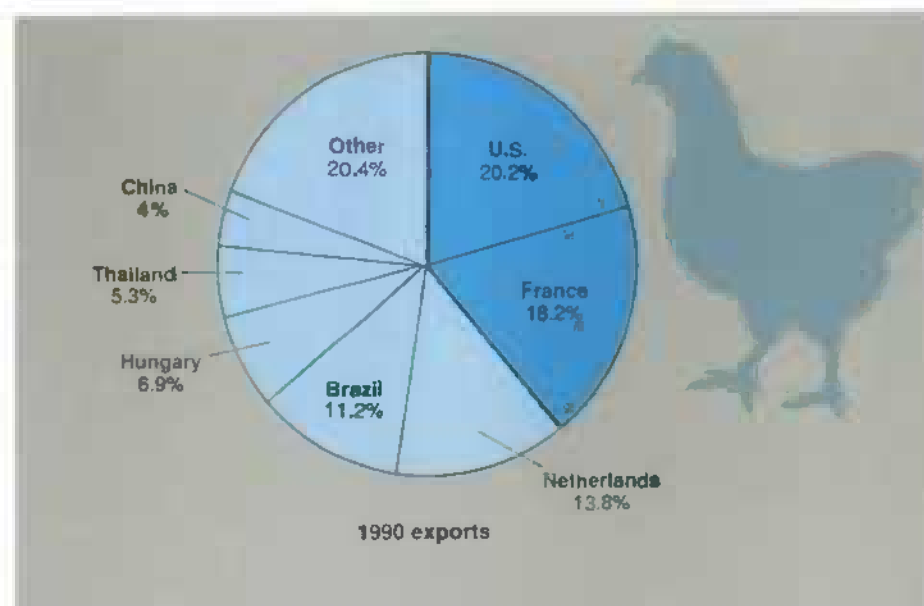
Only about 40 percent of domestic chicken output finds its way into fresh home use in Japan—over half is consumed away from home. Fast-food chains are contributing to higher Japanese consumption. Kentucky Fried Chicken has 800 franchises in Japan, and 500 McDonald's franchises help boost sales of chicken nuggets.

...but Birds Raised At Home in China

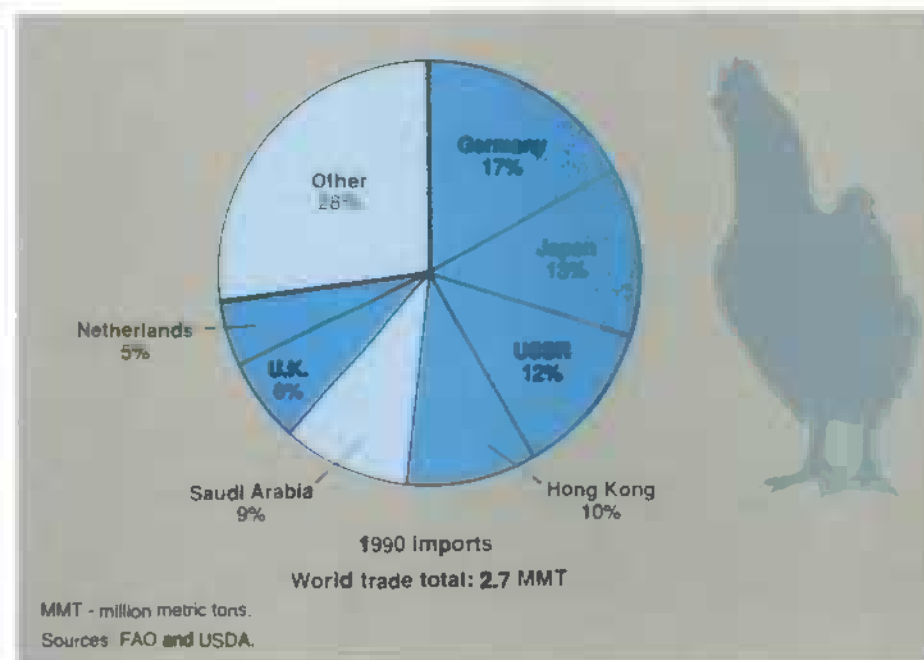
Although pork is the favorite meat of most Chinese consumers, China's poultry output is rising sharply, and it is the world's second-largest poultry meat producer, surpassing the former USSR with output in excess of 7 billion pounds in 1990. In spite of its production and consumption capacity, the Chinese poultry industry is very inefficient, plagued by poor-quality feeds, inferior genetic strains in breeding stock, considerable government interference, and an archaic marketing system.

Chinese poultry production is predominantly a household operation, and birds are sold live in urban markets. A poultry processing facility was constructed in the early 1980's, with the capacity to process 2,500 birds per hour, but actual processing averaged only 175-200 birds per hour. Unable to compete with the movement of live birds to urban markets, the plant was eventually closed, but new plants have been opened since.

U.S. and France Are Chief Competitors in World Poultry Markets . . .



. . . and Much of the Shipments Go to Europe and the Far East



Feed quality and availability are among the most serious hindrances to a modern Chinese poultry sector. Quality control is lacking, and critical feed components are often unavailable. Feeds are mislabeled or not labeled at all, and their nutritive content varies.

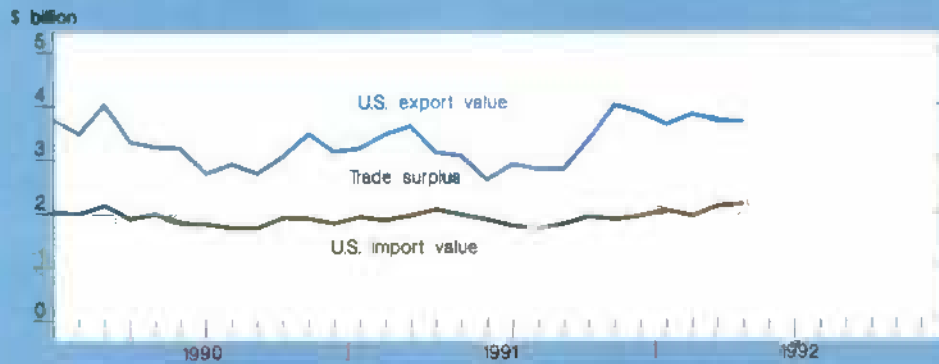
France a Leader In Poultry Exports

The European Community's (EC) poultry meat output swelled by about 95 percent between 1970 and 1990. France supplies about 25 percent and exports 40 percent, the lion's share of EC poultry.

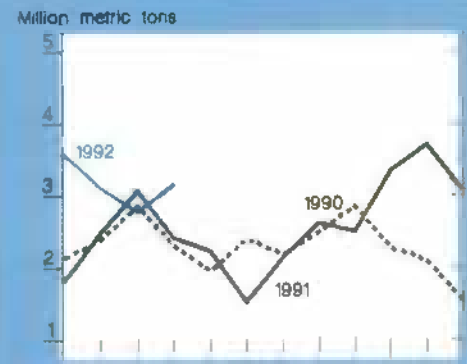
U.S. Trade Indicators

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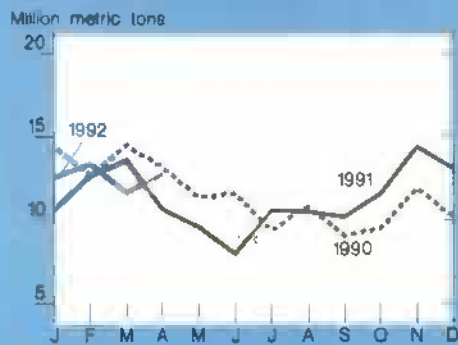
U.S. agricultural trade balance



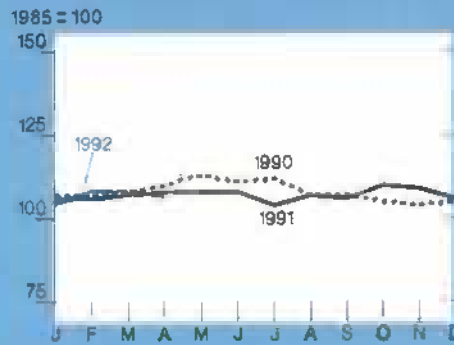
U.S. wheat exports



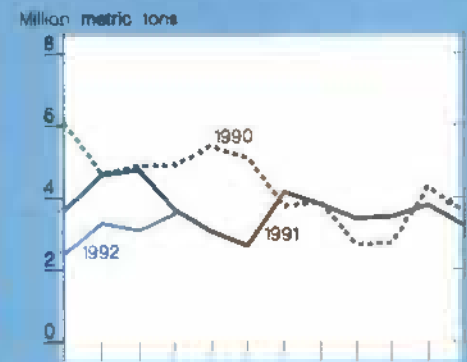
Export volume



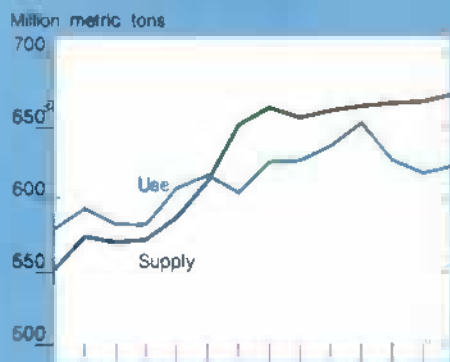
Index of export prices



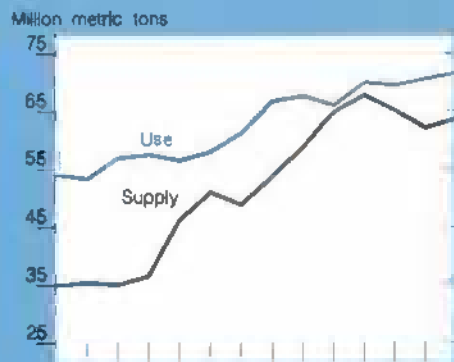
U.S. corn exports



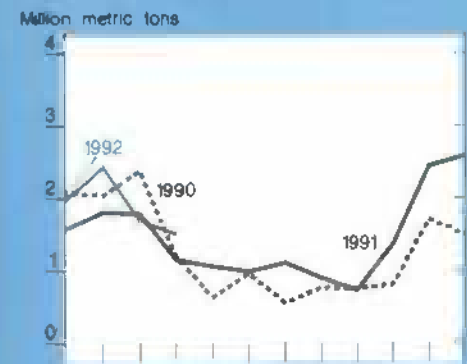
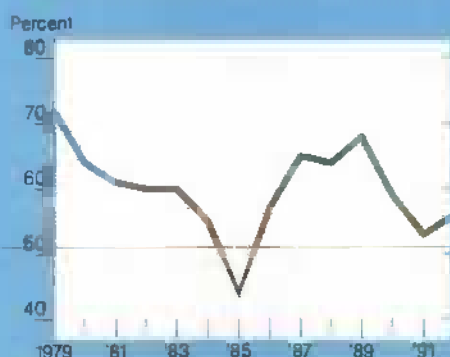
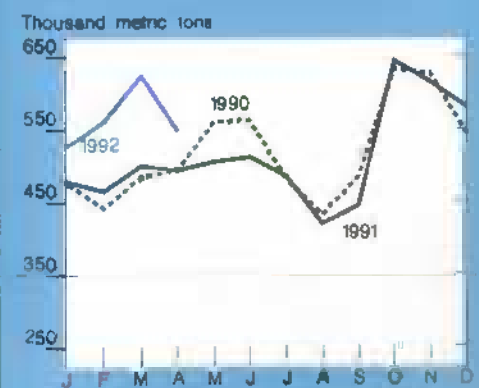
Foreign supply & use of coarse grains



Foreign supply & use of soybeans



U.S. soybean exports

U.S. share of world coarse grains exports^{1,2}U.S. share of world soybean exports^{1,2}U.S. fruit, nut & vegetable exports³¹Excluding intra-EC trade. ²October-September years. ³includes fruit juices

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By 1990, France's production had more than doubled since 1970. France is also the world's second-largest poultry exporter following the U.S., selling 30 percent of its 1990 output as exports. Other large EC producers include the United Kingdom, Italy, Spain, and the Netherlands, whose combined poultry meat output in 1990 totaled 7.8 billion pounds—73 percent higher than in 1970.

Surprisingly, the big advance in French poultry has been in turkey output, which grew from 29 million pounds in 1965 to 952 million by 1990. As a share of total poultry production, French turkey output expanded from 2.3 percent to 26 percent. In the U.S., turkey output, although continuing to rise, has declined slightly in share, to about 18.5 percent of total poultry production. And although France easily remains the world's largest turkey exporter, with about 28 percent of production exported, production costs in the U.S. and France are close, and in 1991 U.S. turkey exports nearly doubled.

U.S. Costs Low, Efficiency High

The U.S. poultry industry typifies what many observers see as the transformation of agriculture. A flow of new technology and improved feed conversion rates have supported the development of integrated production and marketing. More than any other meats, poultry can be produced almost with a factory-like assembly line method, with broilers ready for market in less than 7 weeks.

Organizational restructuring in the industry, increased demand, and technical advances that steadily reduced feed required per pound of weight gain are among the factors maintaining the U.S. poultry industry in first place, more than doubling output between 1970 and 1990.

Efficiencies attainable from technology have dramatically changed the U.S. poultry industry—leading to larger and fewer firms, shortening the production cycle by half, and concentrating production in fewer states. As output increased and vertical integration took hold, the number of poultry farms dwindled, by as much as a third between 1959 and 1988. Although

U.S. Leads In Per Capita Poultry Consumption

Country	1990 consumption Lbs per capita
U.S.	92.4
Israel	80.7
Hong Kong	75.4
Canada	61.9
Saudi Arabia	60.0
Taiwan	51.1
Hungary	48.9
France	47.8
EC-12	39.9
South Africa	32.4
Japan	31.5
Former USSR	29.1
China	6.4

Sources: USOA and United Nations.

most states produce poultry, over 80 percent of broilers are produced in 10 states, led by Arkansas, Alabama, and Georgia. North Carolina, Minnesota, and California lead in turkey production.

Feed conversion efficiencies cut the production cycle—as well as the feed required—substantially. In 1940, it took more than 4 pounds of feed per pound of gain to raise a U.S. broiler, and 14 weeks to “grow out” that broiler. Today, it takes a mere 2 pounds of feed for a pound of gain, and improved genetic stock and management techniques have shortened the grow-out phase from 14 weeks to 6-7. The bottom line for producers is low production costs—among the lowest in the world.

U.S. Parts Ways With Whole Birds

The U.S. poultry industry has enjoyed a large and growing domestic market. Yet, in spite of its success, the industry has not—until recently—looked to exports for significant expansion. During the last 5 years, however, poultry meat exports began a steady climb and in 1990 surpassed France for the first time since 1981. In 1991, U.S. broiler exports reached a record 6.4 percent of domestic production.

Facing some slowdown in industry growth in the early 1990's, the U.S. is beginning to take a longer look at exports to expand marketings, as fast-food outlets did for domestic sales a few years ago. Tailoring products to particular markets has been a strength of the industry in boosting domestic poultry sales, but less so in exporting. Now that is beginning to change.

In an era of niches and differentiated products, U.S. poultry firms are beginning to compete more effectively for export markets. Inroads are being made with exports of poultry parts, rather than whole birds. Sales can be tailored to specific markets, based on quality and price. China, for example, buys the lowest valued parts of chicken—the tips of wings and the feet. The former Soviet Union buys the darker meat parts—leg quarters. Japan is the largest market for poultry parts; in 1990, 21 countries supplied chicken parts to Japan.

Over 90 percent of broiler and turkey exports from the U.S. are parts. Of the few whole broilers exported, most were destined for the Middle East under the Export Enhancement Program (EEP). Relatively large numbers of whole birds were also sold to Mexico, Canada, and to Central America. Mexico has been buying nearly 60 percent of U.S. turkey exports, 97 percent of which are dark meat parts. South Korea is the second-largest market, with a 14-percent share, and parts make up 98 percent.

The EEP—which offers bonuses to exporters to enable them to compete with EC (and others') export subsidies—has had a varying impact in boosting U.S. poultry exports. In 1987 EEP sales made up about 25 percent of U.S. broiler exports. More recently sales have been much lower. In 1990, EEP sales were 4.3 percent, and in 1991 about 3.5 percent, with most sales to Saudi Arabia, Jordan, the Persian Gulf countries, and to Singapore.

EEP sales of whole broilers during January through April 1992, at about 18.6 million pounds, were 38 percent above last year. But these sales represented only slightly over 4 percent of U.S. broiler exports during this period. From May 1986

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through early 1992, 478.5 million pounds of frozen poultry have been sold under the EEP with total bonus payments to U.S. exporters of about \$135 million.

Despite the success U.S. poultry producers enjoy—in efficient, high-technology production, and a pickup in export demand—producers must confront a spectrum of issues being raised across the board for agriculture. Water quality, waste management, and other environmental concerns will add to the pressures of remaining efficient and competitive. Larger production facilities create manure and processing byproducts that can lead to both environmental and public relations problems.

Prevention of disease outbreaks have become more important as flock size and geographic concentration increase. USDA scientists are presently at work on a new vaccine—genetically engineered—to combat Marek's disease, a highly contagious poultry virus. The new vaccine may be commercially available in about 2 years.

Prospects Bright For World Market

Many factors determine poultry meat consumption, including availability, income levels and growth, and prices of

other meats or meat substitutes, as well as tastes and preferences. Market and product development also play a role. The international growth in fast-food markets, offering new services and new products, is one avenue for increases in poultry meat consumption.

Large supplies of dark meat chicken parts are available in the U.S. at relatively low prices but only a small proportion is traded. In 1990, inroads were made with this product into the large USSR market when large quantities of leg quarters were shipped to that country.

Although international financing difficulties have limited this market since 1990, the former USSR continues to offer an opportunity and a challenge for the U.S. poultry industry to find ways to finance further sales. Other potential markets for low-priced U.S. chicken parts can likely be developed as well, particularly when freer trade becomes a reality.

Good potential exists for continued increases in world poultry meat consumption and trade. Consumption has recently been growing at about 5 percent per year, and substantial opportunities remain for investment in production facilities and trade growth between countries. (Larry Witucki (202) 219-1285) **AO**

Environment & Resources



A Look at Pesticide Reduction & Profits

Recent pressure to regulate pesticides reflects rising concerns about the safety of residues in food and water, as well as other potential health and environmental risks. Between 1964 and 1988, fertilizer and pesticide use in U.S. agricultural production increased 85.7 and 164 percent, as farmers sought to increase incomes by increasing yields and substituting less expensive for more expensive inputs.

During 1952-89, the share of U.S. corn acres treated with herbicides increased from 10 to over 94 percent. More than 96 percent of soybean acres were treated with herbicides by 1991, up from 68 percent in 1971. Insecticide use also increased, though less dramatically.

Reduction of pesticide use, initiated by regulation or otherwise, is not only likely to affect farm financial performance but also the mix of outputs produced and the allocation of resources. This article highlights potential impacts of reduced chemical pesticide use—measured by

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Environment & Resources

EPA Reacts to Court Ruling

A court ruling last month could affect some 60 pesticides, requiring the Environmental Protection Agency (EPA) to revoke approval of four widely used chemicals. The decision by the U.S. 9th Circuit Court of Appeals bans the use of cancer-causing chemicals on crops destined for processing if the residue concentration in the processed product exceeds the level in the raw food.

The ruling, which invokes the Delaney clause of the Food, Drug and Cosmetic Act passed in 1958, affects primarily fruits and vegetables, although it could also limit pesticides used on some grains. The Delaney clause provides that additives in processed food should not be considered safe if their ingestion causes cancer in animals or humans. Following last month's ruling, EPA announced it may appeal, and that it will urge Congress to permit use of the chemicals if risks are minimal.

expenditures—on profitability of small, medium, and large cash grain farms. Calculating these impacts provides a start in filling an information gap farmers and policymakers face in considering alternative techniques that are less dependent on agricultural chemicals.

The amount by which profits decline when a producer switches to less chemical-intensive production can also be viewed as a measure of the incentive that producers might need to adopt more environmentally sound production techniques. The effect on profits, of course, will vary from one farm to another depending upon site-specific factors such as soil type, irrigation, and climatic conditions, as well as differences in managerial ability.

Pesticide expenditures in this study include those for herbicides, insecticides, fungicides, nematocides, defoliants, fumigants, growth regulators, materials for frost protection, and biological pest controls. Profit impacts are assumed to be

the same regardless of the method used to restrict chemical expenditures. The analysis does not distinguish among chemical constraints—such as regulations restricting pesticide use, adoption of alternative cropping practices, or voluntary reductions.

The net effect of a reduction in pesticide expenditure is examined for impacts on profit, the mix of outputs, and the allocation of inputs. The study uses data taken from the soybean segment of the 1990 Farm Costs and Returns Survey conducted by USDA. The sample is 226 cash grain farms in the Lake States-Corn Belt production region, including Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin. Over 90 percent of these farms' income, on average, came from corn, soybean, and wheat production. All the farms had less than \$100 in livestock sales, and none had irrigation expenses.

The sample was divided among small, medium, and large farms. Small farms are defined as those with sales less than \$40,000, a threshold that commonly distinguishes commercial from noncommercial farms. The median corn output for a small farm was 3,527 bushels, and the median soybean output 1,426 bushels.

Medium-size farms in the sample have sales of at least \$40,000 but below \$150,000, and their median output was roughly 7 times larger than the small farms—22,738 bushels of corn, and 8,025 bushels of soybeans. Finally, large farms have sales of \$150,000 or more, with median output of corn and soybeans

at 61,320 and 16,050 bushels, respectively. Roughly one-third of the total 226 farms fell into each sales category.

Pesticide Outlays Vary by Farm Size

Do larger farms spend significantly more per acre for pesticides than small farms? Not according to the sample studied here. While per-acre pesticide expenditures showed a slight increase with farm size, the differences between small, medium, and large farms were not statistically significant. Median per-acre pesticide expenditures ranged from \$19.23 for small farms, to \$20.76 for mid-sized farms, and \$22.93 for large farms.

To compute the impact on profits of pesticide expenditure constraints, a statistical technique called Data Envelopment Analysis uses production and expenditure data to determine the theoretical maximum profit each farm could achieve with a specified level of pesticide expenditure, using inputs efficiently. This "best practice" simulates a choice of output level for each of the three crops, as well as the quantities of inputs. When the pesticide constraint is changed, a new "best practice" is simulated, choosing a new level and mix of inputs and crop production that yields the highest profit.

In this study, a farm's profits equal the difference between gross farm income and total expenditures on variable inputs, such as labor, fuel, fertilizer, seed, and machinery costs. Gross farm income is the sum of gross income received for each crop—the farm's output of corn,

Pesticide Reduction Affects Profits of Small Farms the Least

	Per-acre pesticide limit (\$)						
	30	26	22	18	14	10	6
Per-acre profit decline (\$)							
Farm size:							
Small	0	0	15	.72	.95	1.28	14.30
Medium	0	0.09	.96	0	5.48	15.69	16.72
Large	0	0	.60	7.99	10.11	10.57	17.43

wheat, and soybeans multiplied by the state average prices for those crops. Each farm has a choice of three crops: corn, soybeans, and wheat, using inputs including land, labor, fertilizer, pesticides, seed, fuel, machinery lease, and services. In this study, land available to a farm is held fixed for each crop, in order to see the impact of changes in pesticide use alone.

Small Farms Can Take Tighter Restrictions

Median best-practice profits per acre for small, medium, and large farms were computed for eight levels of per-acre constraints on pesticide expenditures: \$6, \$10, \$14, \$18, \$22, \$26, and \$30. For each level of pesticide constraint, a simulated input-output mix is chosen that yields the highest attainable profit.

Then the median profit per acre over all pesticide levels for each farm size is also computed. Since actual farm profits can vary for a number of reasons (such as managerial ability, or soil quality), the median profit per acre is a useful summary measure of central tendency—in other words, where farms tend to “clump together”—in this distribution.

For small farms, the median profit per acre was \$83. The median profit per acre for medium farms was considerably larger at \$147. In the case of large farms, the median profit per acre fell between small and medium farms. This value was observed to be \$125.

As the pesticide expenditure constraint is relaxed (allowing increased expenditures), more options on input-output mix are available to the farmer. Under the range of feasible choices available to a farm, profits cannot decline when the constraint is relaxed.

Farmers are assumed to use inputs—including pesticides—up to the point where any additional input would not generate further profits. Thus, restraining pesticide expenditures would be expected to lead to an initial marginal decline in profit per acre. This is supported by the observation that actual median levels of pesticide application chosen by

farms in the sample agree with the optimum, or best practice, selected by the model. Additional expenditures for pesticides above \$22 per acre do not increase profit significantly.

For some farms in every size category, restricting pesticide expenditures below \$26 per acre began to affect profits. But the point at which profits declined appreciably varied by farm size. For medium-sized farms, profits were not significantly affected until pesticide expenditures were constrained to \$16 per acre. For large farms, restricting pesticide expenditure below \$22 per acre resulted in a significant decrease in profits per acre. For small farms, a pesticide expenditure constraint of \$10 per acre caused a significant decline in profits. The profit declines were initially gradual, accelerating as the constraint increased.

Implications for Profit & Policy

The results from this simulation suggest that modest limits on pesticide expenditures may have only a small negative impact on profitability of small, medium, and large cash grain farms when the expenditure constraint is \$22 per acre or more. Tighter constraints would, of course, affect profits more.

Some farmers are voluntarily attempting to switch to alternative agricultural techniques that use less agricultural chemicals and are easier on the environment. Integrated Pest Management (IPM), for example, decreases use of synthetic inputs and changes cropping patterns to conserve resources and reduce environmental damage. IPM and crop rotation can reduce application of some pesticides and chemical fertilizers in agricultural production.

In some cases, a shift to low-input production practices may actually increase profits when the chemical cost reduction exceeds the change in gross farm income. When a shift to a low-input production practice results in a profit decline, however, the incentive to adopt sustainable practices voluntarily is weak. Also, adoption rates have been slowed by

a lack of information about the costs of reducing agricultural chemical use.

Aside from voluntary reductions and current restrictions in pesticide use, how could pesticide use be limited? Taxes, quantity restrictions, and legal limits on chemical expenditures are all possibilities, but each is fraught with difficulties, mainly in enforcement. User taxes, for example, are not considered very effective—many studies show pesticide use tends to be unresponsive to price changes (price inelastic). In order to change pesticide use significantly, the tax imposed would have to be very steep. Restricting pesticide quantity or expenditure also has disadvantages of being both costly and difficult to enforce.

Finally, producers could be offered a subsidy to induce them to adopt less chemically intensive production techniques. Subsidies, of course, would vary by farm size and among farm types. Research on profit impacts described here are a start in providing information about the size of subsidies that might be needed. (Gerald Whittaker (202) 219-0801, Bing-Hwan Lin (202) 219-0456, and Upal Vasavada (202) 219-0432) **AO**

Upcoming Reports from USDA's Economic Research Service

The following are August release dates for summaries of the ERS reports listed. Summaries are issued at 3 p.m. Eastern time.

August

- 14 *Livestock & Poultry*
- 19 *Fruit & Tree Nuts*
- 20 *Agricultural Outlook*
Pacific Rim
- 21 *Wheat*
- 25 *Feed*
- 26 *Cotton & Wool Yearbook*
- 27 *Exports*
Food Review
- 28 *Dairy Yearbook*

Food & Marketing



International Council of Shopping Centers

Surveying the American Foodscape

American views of the food scene have changed dramatically over the past few decades. As the baby-boom generation has matured, changing lifestyles—and increased incomes—have brought new demands on America's food system. The challenges are evident at every level, from farm to retail:

- More money and less time is making convenience a key to success in food markets; while
- Attitudes on food safety, nutrition, and the environment have an increasing influence on food production, processing, and purchasing.

Farmers, manufacturers, and marketers have responded to these changes, which have also created opportunities, such as more specialized retail markets and the demand for farm products with specific characteristics:

- Producing commodities tailored to new consumer demands—like leaner beef, pork, and chicken—may at the

same time bring higher returns to farmers;

- Given the preferences of many consumers for pesticide-free or organic produce, fruit and vegetable growers must weigh higher prices in niche markets against the potentially increased costs of production for those markets; and
- Promotional activities by commodity organizations with generic advertising can inform consumers of the merits of various foods, while emphasizing to farmers the importance of responding to changing consumer demands.

The Postwar Foodservice Boom

The most striking change in food consumption and marketing has been in away-from-home eating. The foodservice market (eating out) has been growing more rapidly than the off-premise (at-home) food market over the past four decades. Food service accounted for 46 percent of all food dollars in 1990, compared with 25 percent in 1954.

An important reason for the rising share of food service in food sales over this period has been growth in consumer income, which has almost consistently increased both in nominal and real terms. A sharp increase in the proportion of women working outside the home has added to incomes and accelerated the demand for food service. Most of the growth in the away-from-home market has occurred in fast food—like pizza, hamburger, and chicken fast-food restaurants. Its share of the away-from-home market grew from 4 percent in 1954 to 34 percent in 1990.

Meanwhile, changing lifestyles of the postwar baby boom generation have also reshaped demand for food consumed at home. Convenience is a key factor in food purchasing, preparation, and consumption for many households, as the time available for these tasks has shrunk. Fewer weekly trips are made to the local supermarket, and meal preparation time shrank from 30 minutes just a few years

ago to 20 minutes. The microwave oven is now a standard appliance, found in 91 percent of U.S. households.

More recently, health consciousness is also influencing consumer food choices, from concerns about fat and cholesterol, to reported benefits of fiber in cancer prevention. Consumers are eating more poultry, fruits and vegetables, cereal products, and other prepared foods, and less beef and pork, bakery products, sugar and sweets, and coffee.

Food Products—High-Tech, Specialized

Increased specialization—in food products and marketing—as well as technological developments reflect changes in lifestyle and income since World War II. This phenomenon is evident at every stage from farming through manufacturing, wholesaling, retailing, and food service.

Although a considerable portion of technological change involves the substitution of equipment for labor, the agricultural technology of the 1990's is biotechnology. Biotechnology uses living organisms or processes to make or modify products, to improve plants and animals, and to develop micro-organisms for specific uses. It relies on two powerful molecular genetic techniques—recombinant deoxyribonucleic acid (RDNA), and cell fusion technology.

The ability to make significant changes in an agricultural product by genetic engineering is a potentially powerful tool. If genes of hogs or cattle can be changed to produce lean meat rather than fat, for example, the impact throughout the food chain would be significant. If the composition of fats in milk could be changed to contain less cholesterol, demand for this "new" butterfat in various dairy products would be very likely.

Technological advances in testing techniques create the possibility of selecting the grain, say, that most nearly meets the needs of the processor. Farmers are increasingly paid on the basis of how well they perform in providing commodities that meet buyers' specifications. As

manufacturers look for altered products, farmers may be faced with changing demands.

More specialized market strategies have also developed in both the wholesale and food manufacturing sectors. Some manufacturers, who once supplied all parts of the market, are now specializing in one

segment, such as branded consumer products, foodservice products, or ingredients for other food manufacturers.

Other manufacturers have chosen to emphasize products for food service or for particular segments of the foodservice market. For example, some specialize in products for a particular hamburger chain

like McDonald's. Several manufacturers have gone extensively into wholesaling to foodservice outlets, but making only a part of the products they distribute. Still others specialize in niche markets such as ethnic foods.

Procurement arrangements for many commodities have changed as farmers and manufacturers have attempted to share the risk of crop failure or price change. For example, most Florida citrus is sold to processors under pooling arrangements with both cooperatives and proprietary processors.

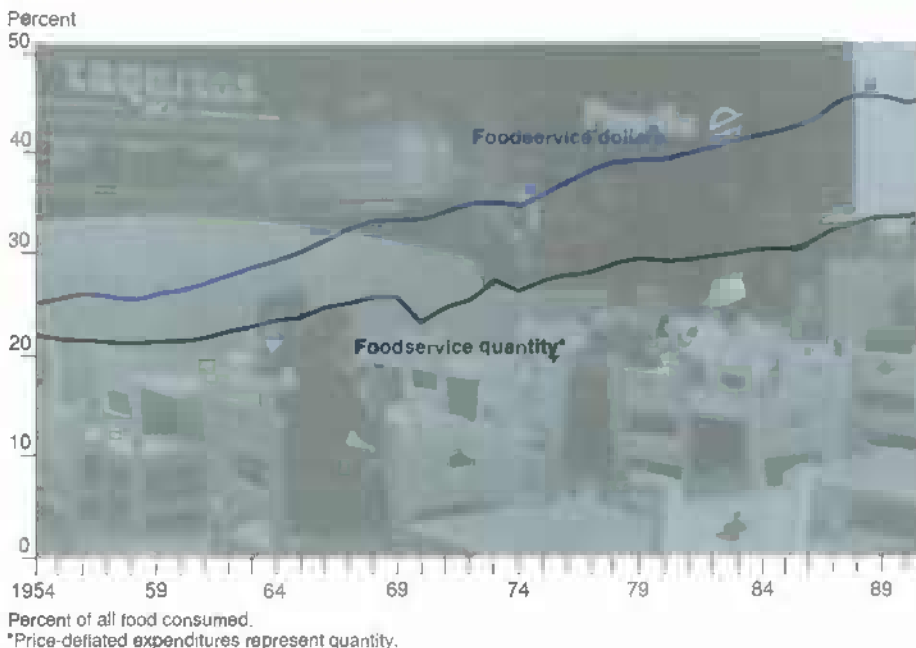
And large-scale introduction of salad bars in fast-food and other restaurants led to contracting for lettuce, the largest volume item on the salad bar. Although lettuce is available year-round, mostly from California and Arizona, price spikes occur every few years due to weather, disease, or insects. Operators with salad bars want guaranteed supplies and have been willing to pay a premium over market prices in normal times for relatively steady supplies and prices.

A New Look for Retail Markets...

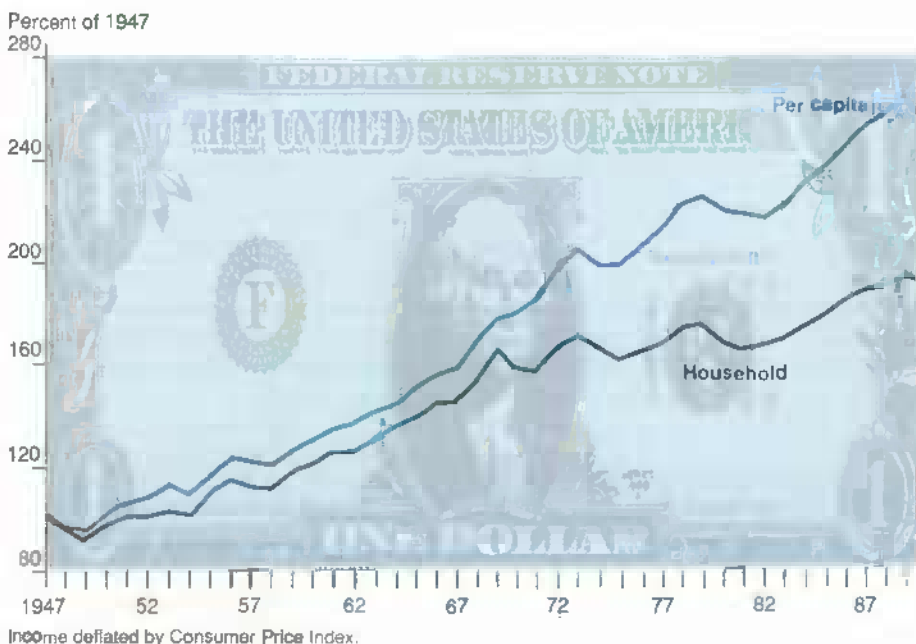
The supermarket boom dominated developments in food retailing from the end of World War II to the mid-1960's. Since then, retailers have used increasingly diverse strategies to attract consumers. Supermarkets' share of grocery store sales jumped from 23 percent in 1948 to 60 percent in 1963, followed by slower growth until the late 1970's and no growth in the 1980's.

Over the last 15 years, however, new store formats have flourished, each format appealing to a different segment of the market. In the 1980's, the share of conventional supermarkets fell from 73 percent to 43 percent, while the share of larger stores offering broader assortments—such as pharmacies, flower and card shops, and housewares sections—increased. Stores emphasizing low prices, like food "warehouse" shopping, increased market share from 5 to 16 percent of supermarket sales, while those emphasizing broader selection rose from 22 to 42 percent.

Food Service Edges Home Cooking ...



... as Income Rises



Food & Marketing

Marketing New Products ...and New Names

Not only have store formats changed, but food manufacturers are also reshaping the composition of the food basket. Traditional ingredients in many products are being replaced (partially or totally) by a variety of substitutes, ranging from low-calorie sweeteners to fat and protein substitutes. Many of these products are still in the development stage, but their introduction is likely to add further changes to the food landscape. Evidence of these changes is illustrated by the nearly total shift of the soda and beverage industry from sugar to corn sweeteners and low-calorie sweeteners.

Poultry markets are another illustration of an industry reshaped by technology and product differentiation. Because of the short production period and the relatively large number of integrated firms, the broiler and turkey industries are characterized by production cycles with frequent periods of poor returns. Turkeys also faced a strongly seasonal demand during the Thanksgiving and Christmas holidays—in the early 1960's, half of all turkeys produced in a year were sold in 2 months.

Turkey processors set out to create year-round demand through new products made from turkey meat, starting with parts such as breasts and legs but rapidly progressing to branded products of turkey rolls, hot dogs, and salami. Sales were also helped by advertising turkey products as a low-fat substitute for similar products made from beef and pork. Swift made the decision to differentiate its whole turkeys as Butterball, a self-basting product, and establish a brand identity consumers readily recognize.

Product development in the broiler industry also proceeded in the early 1960's, with stronger emphasis on cut-up complete birds and parts. These were still nonbranded commodities. Then in 1969,

Frank Perdue started advertising broilers, followed by Holly Farms in 1970. Today customers can choose among breasts, legs, wings, a complete cut-up bird, a whole bird, branded or unbranded, and many further-processed products.

The introduction of branded products has affected price response. Prices of non-branded broilers still respond to supply and demand in the traditional sense, while prices of the branded products remain higher but at nearly fixed differentials. Dramatic changes in the form in which chicken is sold also created substantial differences in price movements between individual products such as whole chicken, and the average prices of all chicken. Wholesale prices of whole broilers rose 67 percent during this period, and prices of cut-up broilers rose 63 percent. But prices of young chickens in all forms rose 134 percent because of major shifts to higher priced forms.

In general, the conversion from generic farm commodities to brand-name products means that retail prices are less sensitive to changes in farm prices than formerly. Breakfast cereals have long been insensitive to the change in grain prices, and the prices of perishables are less sensitive than they were 30 years ago.

The Future: Serving Up More Choices

Today's food system provides a much wider variety of products for consumer choice than in the past. And in the 1990's, the food marketing system will likely have an even wider array of new ingredient substitutes.

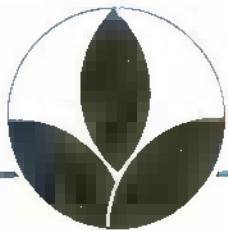
For food manufacturers, advertising and promotion are increasingly necessary for successful introduction of new products. A significant thrust of product development and introduction in the 1980's has been the creation of many more niche products within a given category.

Where one or a few relatively standardized products comprised a category 20-odd years ago, now that market is likely to be divided into numerous niches by developing and promoting new products. So advertising and other promotional techniques are more important in communicating the characteristics of the products, and price comparisons are more difficult. The explosion in breakfast cereals, appealing to different age groups and dietary concerns, is just one example.

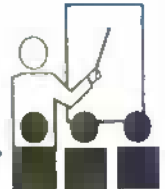
The price relationships among farmers, manufacturers, wholesalers, grocery retailers, and restaurants have been altered, and demand relationships are also different. Changes on the food landscape are also likely to affect market access of farmers, and the distribution of risk between farmers and processors.

Concepts of food quality have acquired a strong nutritional dimension with major impacts on food choices both at home and away from home. Retailers and food-service firms are buying differently to obtain products with the desired characteristics. This often means buying from multiple sources. Consumer concerns about food safety, nutrition, and the environment have also brought changes in demand, both among products and for specific products with certain characteristics. Demand for pesticide-free or organic produce is an example. Interest in recyclable or biodegradable packaging has made manufacturers, retailers, and fast-food firms sensitive to these interests and altered demands for packaging materials.

America's foodscape will continue to change, with new demands by consumers, and new technology paralleling the demands. Health concerns and the quest for convenience will likely continue to play major roles in altering the foods eaten at and away from home. The challenge for food manufacturers and farmers will be to rearrange the food basket to keep up with those demands. [Alden Manchester (202) 219-0880] **AO**



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Special Articles



Agriculture's Diversity: Raw Materials for the Nation's Industries

U.S. agriculture is becoming a more diverse sector, extending its output of food and fiber to include the production of raw ingredients for cosmetics, fuel, chemical products, and other industrial materials. This article explores some recent successes in these areas, and the efforts currently underway to expand the sector's horizons.

Industrial uses of agricultural commodities offer unique opportunities to improve farm income, create jobs, and diversify U.S. agriculture. The economies of farm states would benefit, both directly as new manufacturing plants come on line, and indirectly as extra income is spent locally. At the same time, agricultural commodities and products offer environmental bonuses—with renewable materials such as biofuels and biodegradable polymers that can substitute for many nonrenewable products like petroleum and plastics.

New uses of agricultural products include fuels, biodegradable polymers and packaging, starch-encapsulated biopesticides, industrial chemicals, lubricants, coatings, inks, adhesives, pharmaceuticals, and food additives. The raw materials for these and other products can come from traditional crops and livestock, timber, new plant and animal species, or from underutilized byproducts of agricultural and forestry processing.

From a Plastic Society . . .

New uses of agricultural materials as feedstocks for industry have, in many cases, an added benefit to the environment. Alternatives to petroleum-based plastics are a good example. Over the last 30 years, annual growth in plastics production has averaged 10 percent—far greater than growth in the overall economy. In a throwaway society, plastic is a perfect product: durable, light-weight, moldable into various forms, virtually indestructible, and relatively cheap.

In a 1990 report, the U.S. Environmental Protection Agency (EPA) raised concerns about the impact of plastic waste on solid waste management and on the marine environment. Currently, plastics account for approximately 7 percent by weight, and 14-21 percent by volume, of the municipal solid waste stream. Half of the plastic waste stream comes from packaging materials. As landfill space becomes more scarce, the effect of plastic waste on landfill capacity will become more critical.

Plastic waste in the marine environment poses risks to marine and human life, not to mention aesthetic considerations. The Marpol Treaty, signed by 29 countries in 1987, prohibits the discharge of all plastic wastes at sea beginning in 1988 for commercial vessels and in 1994 for government ships. As part of the effort to comply with the treaty, the Department of Defense—in conjunction with USDA and private companies—has implemented a large-scale research effort designed to develop biodegradable polymers to replace petroleum-based plastics for all food uses.

Plastic waste is an example of a problem commonly known as a negative externality—the full cost of plastic use is understated because the damage to the environment is not included in the price paid by consumers. Negative externalities can be avoided directly, and efficiently, if substitute products are made available.

To correct negative externalities and limit environmental consequences in the absence of substitute products, government can apply taxes or regulations to change the behavior of consumers and industry. Examples include the requirement of scrubbers on smokestacks of coal burning furnaces, and catalytic converters on automobile exhausts. In some instances, the government has taxed polluters directly, encouraging a decrease in volume of pollution through conservation and innovation.

. . . To a Biodegradable One

Conservation efforts and technical innovations that address the plastic (and other) waste disposal problems are emerging in retail markets and industry. Conservation efforts include reusable canvas or mesh bags at supermarkets, use of wax-coated paper wraps instead of foam packaging by fast-food restaurants, and recycling of plastic.

Technical innovations may be needed to address other disposal issues. For example, paper and plastic contaminated with food are often too costly to clean, separate, and recycle. The development of biodegradable polymers is one of the most promising answers to this problem.

When starch-additive plastics first emerged less than 5 years ago, they contained 2-3 percent starch and 97-98 percent petroleum-based plastics. However, today's technologies use starch as the principal ingredient, and a number of firms are forging ahead with production.

National Starch and Chemical Company has developed a biodegradable replacement for expanded polystyrene loose fill (packing "peanuts"), called Eco-Foam. Resembling a noodle-shaped snack, Eco-Foam is 100-percent corn starch. Output in 1991, the first year of production, was 2.5 million pounds. Currently, Eco-Foam is manufactured in nine U.S. locations.

The market is large—55 million pounds of loose fill is used annually in the U.S. At present, biodegradable products make up less than 10 percent of the market. Although Eco-Foam is presently about twice as expensive per pound as conventional polystyrene loose fill, costs will probably come down as sales volume grows and the technology is refined.

Warner-Lambert's Novon Products Division is marketing a line of starch-based polymers derived from corn or potatoes. Production began in early 1992 at its facilities in Rockford, Illinois. The plant has an annual production capacity of 100 million pounds. Currently, NOVON polymers are being used to make a variety of products, from packing peanuts, to candle cups for churches, to golf tees.

Potential uses for NOVON polymers include fast-food packaging such as cups, drink lids, straws, and cutlery. Another potential use is in health care items not as suitable for recycling—for instance, diapers and feminine hygiene products.

Starch-based polymers will decompose in sewage treatment plants or in soil composts. An issue in the future will be the creation of compost centers to recycle these totally degradable starch-based polymers.

Some firms are beginning the process. For example, Composting Concepts is a private firm in Woodbury, Massachusetts that collects and processes yard waste. Client households are encouraged to use bags made from cornstarch for curbside yard waste collection. The bags are processed with the yard waste through a shredder and the shredded material is then composted. The cornstarch bags fully degrade within 4 months, long before the compost is ready for marketing. The compost is marketed as a topsoil, soil amendment, or fertilizer supplement.

Environmental benefits of agricultural-based industrial products are not limited to biodegradable polymers. For example, ethanol—made from corn or other grains—has potential as an oxygenating agent in automobile fuels to decrease carbon monoxide emissions.

Not only are corn and potato starches being used as industrial raw ingredients, but common vegetable oils are also increasingly finding their way into manufacturing. They are replacing petrochemicals as raw materials in a number of product areas. For example, soybean oil is now used in printing inks.

Industrial Oils from Crambe & Rapeseed

For many traditional crops, industrial uses are a supplemental, or secondary, source of demand. But some crops are grown primarily for the industrial market. Industrial rapeseed, crambe, and kenaf are a few examples.

Two types of rapeseed are grown in the U.S. Canola is the name of rapeseed varieties that contain low amounts of erucic acid in their oil, making them suitable for human consumption. Industrial rapeseed, on the other hand, has high amounts of erucic acid (45-57 percent) in its oil. Crambe, another oilseed crop, also has a large proportion of erucic acid (50-60 percent of the oil).

Both industrial rapeseed and crambe have oil contents (42 and 35 percent) similar to that of sunflowers (40 percent). If crambe seed is dehulled, its oil content approaches 50 percent. Most industrial rapeseed and crambe oils are processed into erucamide, an antiblock, slip-promoting additive for plastic-film products, such as bread wrappers and garbage bags. Many other products can be made from erucic acid or its derivatives, including nylon-1313, high- and low-temperature lubricants, heat transfer oils, dielectric fluids, plasticizers, cosmetics, surfactants, and coatings.

Rapeseed and crambe are annual crops belonging to the mustard family. The industrial rapeseed varieties used in the U.S. are planted in the fall, like winter wheat. About 9,600 acres of industrial rapeseed were planted last fall, primarily in the Pacific Northwest. Crambe is a spring planting crop, and an estimated 23,000 acres were planted this year in North Dakota.

Rapeseed can cross pollinate, which can cause problems if industrial rapeseed and canola are planted near each other. Most industrial rapeseed is grown under contract, so locations are controlled to a certain extent. In Tennessee, industrial rapeseed and canola production are located in different regions of the state. Idaho and Washington have established production districts. Crambe is also grown under contract.

Planting and harvesting equipment is similar to that used for small grains, although machines would need some adjustment to handle the small seed. Both industrial rapeseed and crambe may easily fit into various crop rotation patterns. In North Dakota, for example, some farmers are pleased with crambe because it is not susceptible to a number of common pests and diseases found in the area.

Special Articles

Industrial rapeseed and crambe meals contain about 38 and 30 percent crude protein. Both meals contain antinutritional compounds (glucosinolates), as do many oilseed meals. Therefore, ruminants (cattle and sheep) will probably be the primary consumers. The Food and Drug Administration has approved the use of rapeseed and crambe meals in beef finishing rations.

Kenaf Ties It Up

Kenaf has been grown for hundreds of years in many tropical and subtropical countries. It is used as a substitute for jute in making twine, rope, and other cordage products. Work is progressing on developing kenaf as a domestic crop in the U.S.

Kenaf was introduced into this country during World War II when jute imports from Asia were unavailable. During the 1960's, USDA's Agricultural Research Service examined about 500 plant species as potential fiber sources for pulp and paper manufacturing. Kenaf was the most promising nonwoody species.

During the next 30 years, public and private sector researchers developed crop production practices and manufacturing procedures for kenaf newsprint. Several pressroom trials were conducted.

Kenaf newsprint has several advantages over conventional newsprint. It offers excellent strength, better ink adherence (requiring less ink), reduced ink ruboff, and sharper photo and color reproduction. Kenaf also requires less energy for pulping and brightens easier than most wood chips. Furthermore, it can be blended with recycled newsprint to improve paper quality.

Kenaf plants range in height from 12 to 18 feet. Stems consist of an outer bark composed of bast fibers and an inner core containing shorter fibers. The longer bast fibers make up about 30 to 40 percent of the stem, on a dry-weight basis, and the shorter core fibers make up the remainder.

About 4,100 acres of kenaf have been planted this year in Texas, Louisiana, Mississippi, California, Oklahoma, and Delaware. Standard farm equipment can be used for planting and cultivation. Harvesting occurs during the fall and winter. Yields range from 5 to 10 tons per acre.

A kenaf-based newsprint mill is planned for south Texas in the Rio Grande Valley, once adequate financing is secured. When operational, the mill will produce 30,000 tons of newsprint annually. Surrounding farmers will grow 2,500 acres of kenaf that will be blended with recycled newsprint. This type of project might be of interest to communities in many areas across the country that do not have natural forest resources but need viable outlets for used newsprint.

In addition to its use in newsprint, kenaf stems can be separated into bast and core fibers. Natural Fibers of Louisiana, Inc., operates a kenaf fiber separation plant near Jeanerette, Louisiana. Similar projects are being developed in Texas, California, and

Mississippi. The bast fibers have many uses, including fiberboard, interior car parts, acoustic tiles, carpet padding, burlap, and fiber mats. The primary use of the core fibers is for poultry litter. The production history developed while filling these niche markets can demonstrate to the pulp and paper industry the viability and reliability of kenaf fiber production.

From R&D to Commercialization

New products do not just appear on the market overnight. It takes years to investigate raw material properties and functions, to develop products to meet specific market demands, to scale up and validate technology, and to implement distribution and sales programs.

For agriculture and other scientific fields, the Federal government provides the majority of funds for basic research. The argument for government involvement is that basic research results are difficult to capture by a single firm, suggesting that private rates of return are lower than social rates. Because private firms cannot capture all the benefits of their research investments, the private sector tends to underinvest in research and development. Government-supported basic research is one method used to help correct this externality or inefficiency.

Federal support for this type of R&D is based on several criteria:

- externalities associated with the R&D, such as pollution cleanup;
- benefits to broad segments of the economy simultaneously, such as in health or agriculture; and
- lack of sufficient incentives to the private sector to make R&D investments worthwhile.

Federal spending constitutes about half of the total national investment in R&D, but the Federal government is not the principal practitioner of R&D in the U.S. Almost 90 percent of the total national R&D is conducted by private industry, universities, and other entities.

But basic research is only part of the story. An essential step is commercialization. Here, the private sector is the main source of funds for manufacturing and marketing. Bringing together government and university researchers, industry, and investors to develop and market new products is what commercialization is all about. Some examples of commercialization activities are:

- scaling up prototype equipment to commercial size;
- testing products for performance and consumer acceptance;
- conducting precommercial runs;

- verifying that the technology performs on a commercial scale;
- obtaining regulatory clearance; and
- developing technical, cost, price, and other economic data for financial institutions.

Being first with new products has advantages and disadvantages. An advantage can be added profits when, for example, a differentiated product captures a market niche with a brand-name item. Still, there are reasons why private firms do not undertake commercialization.

Sometimes private companies will not commercialize new products or technologies on their own because being first can put the firm at a competitive disadvantage later. For instance, a firm building the first commercial-scale plant will go through a "learning by doing" process that, unless kept secret, will benefit competitors. Other firms would be able to build a second-generation plant that is lower in cost.

Because private firms need returns on their investments within a short period of time, they do not always choose products and technologies that maximize societal benefits. Government can help shepherd the search for appropriate products and technologies that encompass society's goals and correct negative externalities, such as promoting a cleaner environment or reducing reliance on imported oil.

Through its involvement in commercialization efforts, government also can provide more access to information, increase competition, reduce barriers for firm startups, and bear risk to help investments generate returns.

USDA Supports Efforts With AARC Center

USDA is expanding and accelerating work on use of agricultural materials as feedstocks for industrial products. The goals of the Department's research, development, and commercialization activities are to expand markets for U.S. farmers and ranchers and increase economic opportunities, particularly in rural America.

The AARC Center plans to issue a request for pre-proposals (extended abstracts) late this month. Proposed projects must involve use of an agricultural or forestry material in a nonfood, nonfeed industrial product. While the Center's focus is on technology development and demonstration, the Board welcomes proposals ranging from research to commercial assistance. For more information, call Beverly Gillot, at AARC (202) 401-4860.

Developing new uses for agricultural materials has a long history of Federal support. In 1938, four USDA regional labs were created to develop new products and materials from agricultural produce. The focus is on basic and applied research. The labs have developed a host of new products and processes, including water-based paints, glues for plywood, detergents from animal fats, lubricants and cutting oils, permanent-press cotton-polyester fabrics, and a low-cost method to produce penicillin.

Today, USDA's efforts are gaining momentum with the Alternative Agricultural Research and Commercialization (AARC) Center. Authorized by the 1990 farm bill, the AARC Center forms the leading edge of the Department's efforts to promote commercialization of agricultural materials for industrial uses. Its purpose is to facilitate and accelerate use of agricultural materials in nonfood, nonfeed industrial products.

The Center is authorized to issue grants, contracts, and cooperative agreements to carry out research and development activities. To assist commercialization, the Center can provide loans, interest subsidies, venture capital, and repayable grants. Priority will be given to proposals with private and other government co-sponsors.

The AARC Center will promote and coordinate work among private firms, government agencies, and universities to verify technology, test prototypes, make products on a precommercial scale, and secure regulatory approvals. The Center is funded at \$4.5 million for fiscal 1992, and \$10 million was requested for fiscal 1993.

In March, the Secretary of Agriculture named nine members to the AARC Board—six from private industry, and one each from academia, a nonprofit organization, and USDA, representing various areas of expertise. The Board held eight public hearings around the country in May and June to provide information about AARC, receive input on alternative industrial uses of agricultural materials, and discuss mechanisms for transferring technology and supporting public or private partnerships and rural development.

Individuals testified at the hearing in Bloomington, Minnesota, that the AARC Center should support numerous small commercialization efforts involving rural entrepreneurs as opposed to assisting larger urban-based corporations. Virtually all said commercialization of new uses should be demand-driven, instead of developing new products and then trying to find markets for them.

Although the AARC Center is new, USDA's Cooperative State Research Service (CSRS) has been working on commercialization issues for several years. Using the authority of the Critical Agricultural Materials Act of 1984, CSRS has entered into cost-sharing agreements with private firms and universities to bring technologies far enough along to attract private investment, or at least to the point where 100-percent private investment appears feasible. CSRS is coordinating a number of demonstration projects, including the development of guayule natural rubber, kenaf newsprint, biodegradable starch-based polymers,

high-erucic oils for industrial products from crambe and rapeseed, and taxol from the needles of ornamental yews.

USDA's Agricultural Research Service (ARS) is also working to move its findings into commercial use. The agency has two mechanisms to accomplish this: cooperative research and development agreements (CRADA's), authorized by the Technology Transfer Act of 1986, and licensing of patents for inventions by ARS scientists. ARS has negotiated over 225 CRADA's and is involved heavily in patent licensing. However, ARS does not directly fund commercialization projects.

Other countries are pursuing similar efforts. The European Community (EC) and Japan have programs to promote commercialization of industrial products from agricultural materials. For example, the EC has a Research, Technology Development, and Demonstration (RTD&D) program that is funded through 1994. The program includes at least \$58 million for commercialization of nonfood industrial uses. Japan has a larger program to derive naturally occurring agrichemicals and pharmaceuticals from plants and animals.

Benefits Could Invigorate Rural Economies

New industrial uses for agricultural raw materials means greater demand for farm commodities. USDA research has shown that finding new uses for program crops would reduce government program payments, increase the share of farm income coming from the market, and generate benefits to consumers of the new products.

Production of new industrial crops would allow farmers to diversify their farming systems and income sources. Such diversi-

fication may improve crop rotations and be amenable to other sustainable production practices, as well as reduce reliance on government commodity programs.

The physical ability to produce crops for industrial uses may not be a problem for the agriculture sector—the U.S. already has excess capacity to produce agricultural materials. In 1991, about 65 million acres of cropland were idled under government programs—land that could be diverted to the production of industrial-related crops over the longer run.

Benefits also would accrue to the farm states where the industrial crops are grown. Jobs and income would be generated as the crops are taken from the farm gate to the processors and on to the wholesalers and retailers. The predominant post-farm-gate activity would be in the transportation, manufacturing, distribution, and support sectors of farm states.

Expanding use of agricultural materials in industrial products holds promise for employing some of the nation's idled farm and rural resources. As more agricultural materials are used in industrial products, more farm inputs and outputs will be used in farm states. Many of these agricultural materials have low bulk density, and at least the initial processing would occur relatively near where the commodities are produced.

The demand for products that use agricultural commodities as industrial raw materials is likely to increase, as nonrenewable resources become increasingly scarce and expensive, as businesses modify their manufacturing systems to use renewable materials and minimize waste generation, and as consumers use their purchasing power to indicate concerns for a better environment. [Lewrene Glaser, Greg Gajewski, and Doug Beach (202) 219-0888] **AO**

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Embassy of Chile

Enterprise for the Americas Initiative

The U.S. Enterprise for the Americas Initiative (EAI) may ultimately lead to the establishment of a hemisphere-wide free trade zone. Announced by President Bush on June 27, 1990, the EAI encourages political and economic reform in Latin America and the Caribbean, by promoting free trade, entrepreneurship, and economic growth.

This month, AO publishes the first of a series on the Enterprise for the Americas Initiative. Following a review of EAI policies, AO focuses this month on the next candidate for a free trade pact, with the proposed U.S.-Chile agreement. Next month's installment will turn to other Latin American countries and examine the development of regional trade agreements.

Expanding Free Trade in the Hemisphere

The EAI builds on existing and proposed trade agreements between the U.S., Canada, and Mexico. Canada and Mexico are the largest agricultural trading partners of the U.S. in the Western Hemisphere. The U.S. and Canada signed a free trade agreement (CFTA) which took effect on January 1, 1989 and phases out all tariffs between the two countries within 10 years. Seeking to expand this free trade zone, the U.S., Canada, and Mexico on February 5, 1991 announced negotiations toward a North American Free Trade Agreement (NAFTA). The proposed NAFTA is the first step toward linking Latin America and the

Caribbean with the U.S. and Canada in a hemispheric free trade zone.

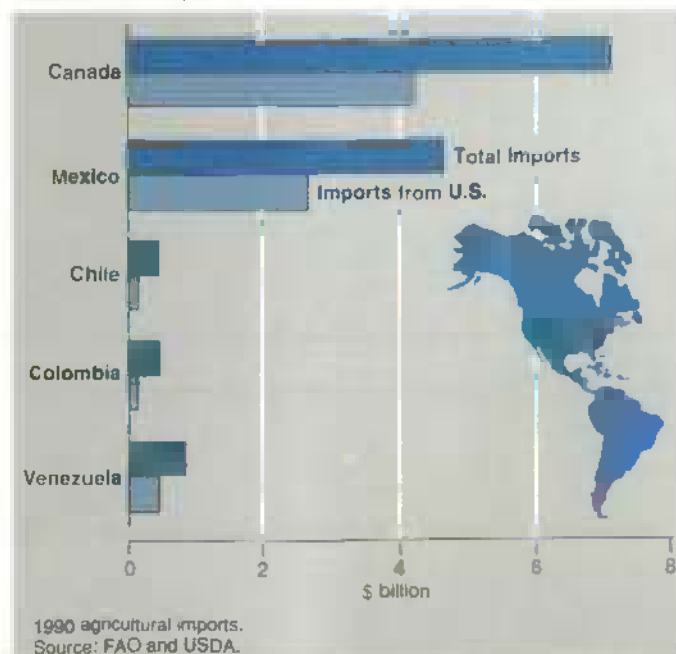
The EAI proposes action for the Western Hemisphere in four main areas: (1) liberalizing trade, (2) reducing the debt burden of Latin American and Caribbean countries, (3) increasing foreign investment in Latin America and the Caribbean, and (4) protecting and improving the environment. Environmental improvement will be tied to debt reduction and investment promotion. The U.S. enacted into a law a number of EAI measures related to debt, investment, and the environment under the 1990 farm bill.

In 1991, more than a dozen new bills were introduced in Congress related to the EAI. Five of the House bills and three of the Senate bills were incorporated into House bill HR 2508, which would implement portions of the EAI. As of October 1991, the conference report on HR 2508 had been accepted by the Senate, but rejected by the House. No further action has been taken on HR 2508. In 1992, several more bills related to the EAI were introduced in both the House and Senate. Two House bills (HR 5368 and HR 5487) have been received in the Senate.

Under the EAI, the U.S. will advance free trade in several ways. First, the U.S. will consider free trade agreements with Latin American and Caribbean countries. Free trade agreements under the EAI would be consistent with the provisions of the General Agreement on Tariffs and Trade (GATT). Trade agreements could possibly be implemented through the current "fast-track" authority, which expires in June 1993.

With the possible exception of Chile, few Latin American countries appear ready to negotiate free trade agreements before the fast-track expires. In order to be candidates for free trade

The U.S. Is a Prime Source of Farm Products in the Western Hemisphere



Special Articles

The Fast-Track Negotiating Authority

Foreign governments are reluctant to negotiate trade agreements with the U.S. if the agreements are subject to later amendments by Congress. The President's ability to negotiate trade agreements, through the U.S. Trade Representative, derives from a delegation of authority from Congress. "Fast-track" authority, originally a provision of the Trade Act of 1974, makes agreements nonamendable and subject only to up-or-down votes by Congress.

Fast-track applies to the General Agreement on Tariffs and Trade (GATT), the North American Free Trade Agreement (NAFTA), and bilateral agreements such as those connected with the Enterprise for the Americas Initiative (EAI). For the GATT, the President can, within limits, modify tariff levels without Congressional approval, but nontariff measures require fast-track for change. For bilateral agreements, such as those connected with the EAI, fast-track applies to both tariff and nontariff measures. Congress can deny fast-track authority for any given country during the required 60-legislative-day notification period.

The fast-track was scheduled to expire on June 1, 1991, but President Bush requested an extension for an additional 2 years. Since no House or Senate resolution was passed to disapprove the request, fast-track was extended to June 1, 1993.

agreements with the U.S., trading partners must adopt economic policies compatible with free trade. Moreover, these countries should have the institutional capability to fulfill the obligations of trade agreements. In many Latin American and Caribbean countries, the necessary institutions and policies do not yet exist although they are in the process of being established.

Second, the U.S. is helping to establish forums necessary for promoting further trade liberalization in the Western Hemisphere. The U.S. has concluded Trade and Investment Framework Agreements (TIFA's) with most Western Hemisphere countries, establishing joint trade and investment councils. The objectives of these councils are to monitor trade and investment relations, hold consultations on specific trade and investment matters of interest to both sides, and work to identify and remove impediments to trade and investment flows.

At the time of announcement of the EAI, the U.S. had framework agreements with Mexico and Bolivia. By January 1, 1992, all Latin American and Caribbean countries except Cuba, Haiti, and Suriname had signed framework agreements with the U.S. All three lack democratically elected governments.

Finally, the U.S. supports ongoing multilateral trade negotiations, viewing such negotiations as complementary to EAI. Trade and investment councils set up under the TIFA's, for example, include cooperation on the Uruguay Round of the GATT

in their initial agendas. The Uruguay Round would set international standards for services trade and protect intellectual property rights. Furthermore, if Latin American and Caribbean countries are to continue their development, the U.S. cannot be their only market. The U.S. is promoting deeper tariff reductions in the Uruguay Round on products of special interest to Latin American and Caribbean countries, such as tropical products.

Some Key Linkages: *Debt, Investment, Environment*

The EAI would reduce the debt owed to the U.S. by Latin American and Caribbean countries. Portions of the old debt (\$12 billion is owed to the U.S.) would be exchanged for new, reduced obligations, possibly with reduced payment levels. The U.S. regards debt reduction as necessary to stimulate imports, and to redirect funds into areas that promote private foreign investment, such as transportation and essential government services. Under the EAI, the U.S. will encourage other creditor nations to provide debt reduction to eligible countries.

Investment promotion under the EAI has two elements. The first involves Inter-American Development Bank (IDB) loans that encourage liberalized foreign investment regulations by recipient countries and support privatization efforts. Second, a Multilateral Investment Fund, expected to amount to \$1.5 billion in grants through 1996, will provide targeted support for investment reforms in the Western Hemisphere. Investment reform will support efforts to privatize government-owned industry, improve workforce productivity, and improve entrepreneurial access to capital. For 5 years, the U.S. would provide \$100 million annually to the fund and encourage contributions by other developed nations.

The EAI will also support natural resources management to help protect and improve the environment. The U.S. would negotiate Environmental Framework Agreements (EFA's) with individual countries eligible for EAI debt reduction. Such agreements are currently under negotiation with Bolivia, Chile, and Jamaica. The EFA's allow interest payments on the reduced debt of these countries to be paid, in local currency, into an Enterprise for the Americas Fund for local environmental projects. If an EFA is not negotiated, payment must be made in U.S. dollars.

Will Chile Be the Next U.S. Free Trade Partner?

After Mexico, Chile is the next candidate for a free trade agreement with the U.S. With an open and stable economy, Chile is an attractive partner for liberalized trade agreements with the U.S. and participation in various Latin American trade groups.

Agriculture contributes about 9 percent of Chile's gross domestic product. With minor exceptions, all Chilean agricultural trade is through private businesses. Chile has no import

licensing requirements or quotas on agricultural products. In 1991, Chile lowered its uniform tariff, which applies to most goods, from 15 to 11 percent. A few agricultural goods are not covered by the uniform tariff, but are bound by a GATT agreement at a 35-percent maximum ad valorem rate. Chile has some trade restrictions; notably, annually renewed minimum custom values and import surcharges designed to protect domestic production. A limited number of agricultural products (wheat, edible oils, and sugar) are subject to a price-band mechanism.

The quality of Chile's animal and plant health infrastructure will facilitate trade with the U.S. Chile has an advantage over other South American countries in that it is surrounded by natural barriers to pests and diseases present in other parts of South America: the Andes Mountain Range on the east, the Atacama Desert in the north, and the Pacific Ocean to the west and south. Chile enforces its sanitary and phytosanitary measures, and private associations help ensure that products meet the safety and quality requirements of the export market. USDA's Animal and Plant Health Inspection Service (APHIS), in cooperation with the Chilean "Servicio Agrícola y Ganadero" and Exporters' Association (ASOEXPORT), oversees a major preclearance program for Chilean agricultural products shipped to the U.S. Fur-

thermore, Chile has worked closely with APHIS to eradicate the med-fly and foot-and-mouth disease.

Chile's economy has grown at an average real rate of 5.4 percent since 1984. This stable economic growth was a strong factor in Chile's selection by the U.S. as the next country, following Mexico, to enter into negotiations on a bilateral free trade agreement, under the EAI.

Chile's commitment to economic reform has helped it qualify for debt reduction and investment promotion programs under the EAI. Chile was the first country to qualify for an investment sector loan under the new Inter-American Development Bank (IDB) lending program, receiving \$150 million on June 19, 1991.

On June 27, 1991, Chile and the U.S. signed the first bilateral debt reduction agreement under the EAI, reducing Chile's food assistance loan debt by 40 percent to \$45 million. Chile is currently negotiating an Environmental Framework Agreement with the U.S.

Chile Has Close Ties to Mexico, Venezuela, & Colombia

In April 1991, Mexico, Venezuela, and Colombia, known collectively as the Group of Three (G3), agreed to set up a free trade zone by 1994. Venezuela and Colombia, like Mexico and Chile, are engaged in aggressive trade and economic reform programs.

Chile is seeking bilateral agreements with each of the G3 members, and a Chile-Mexico free trade agreement was signed on September 22, 1991. The agreement did not include wheat, edible oils, and sugar. An obstacle to Chile's conclusion of free trade agreements with the remaining G3 countries is the need for Venezuela and Colombia to obtain waivers from the Andean Group. Members of the Andean Group (Bolivia, Colombia, Ecuador, Peru, and Venezuela) are attempting to form a common market by 1996.

Within the Andean Group, Venezuela and Colombia are more developed than other members. As such, they have incentive to press ahead with bilateral trade agreements with the U.S. rather than wait for U.S.-Andean Group negotiations. Venezuela and Colombia signed a bilateral free trade agreement that became effective on February 6, 1992 accelerating their integration beyond that of other Andean Group members.

Venezuela, the largest market for U.S. agricultural exports in South America in 1990, had one of the region's most stable governments prior to a failed coup attempt in February 1992. As of January 1, 1991, Venezuela's official debt to the U.S. (\$20 million) was the smallest official debt of any Latin American country. The Venezuelan government has adopted a floating exchange rate system, sold off state-owned enterprises, liberalized its trade and interest rates, removed price controls, and reduced government subsidies to many sectors of the economy.

The U.S. Supplies Most of Chile's Corn Imports . . .

Products	Total Chilean imports	U.S. share
	\$ million	Percent
Cereals	36.4	47.5
Wheat, unmilled	8.5	43.5
Corn, unmilled	13.7	89.8
Sugar & honey	53.6	12.5
Coffee, tea, cocoa, spices	42.4	1.4
Miscellaneous processed foods	13.0	26.2
Animal & vegetable oils, fats	53.1	3.0
Cotton	38.4	1.3
Crude animal, vegetable materials*	16.2	42.0
Other agricultural commodities	118.0	3.0
All imports (ag & non-ag)	7,022.3	19.5

... And Is Chile's Best Customer for Grapes

	Total Chilean exports	U.S. share
	\$ million	Percent
Fruits & vegetables	900.8	46.9
Apples, fresh	107.5	6.4
Grapes, fresh	352.8	74.2
Stone fruit, fresh	78.9	63.4
Animal feedstuff	401.7	1.7
Beverages	53.1	27.1
Tobacco	11.2	65.2
Crude animal, vegetable materials*	82.2	26.9
Other agricultural commodities	160.1	11.4
All exports (ag & non-ag)	8,292.1	16.2

1990 trade data

*Includes bones, seeds for planting, vegetable materials for medicines, and cut flowers.

Source: United Nations, *Commodity Trade Statistics*.

Special Articles

Rules-of-Origin Help Prevent Trade Deflection

Trade deflection, a phenomenon peculiar to free trade areas, occurs when the trade restrictions of high-barrier member countries are circumvented by transshipping products through low-barrier member countries. For example, suppose both the U.S. and Canada were importing a commodity directly from a third country prior to the U.S.-Canada Free Trade Agreement. Following the agreement, if the U.S. began to import the commodity indirectly through Canada because Canada's external tariff is lower than that of the U.S., trade is said to be deflected.

Rules-of-origin would help protect the U.S. and Canada from trade deflection that might occur as a result of Mexico's trading relationship with other Latin American countries such as Chile, Venezuela, and Colombia. For example, under the U.S.-Canada Free Trade Agreement, goods initially produced outside the U.S. and Canada may be determined to have originated in Canada if they had been transformed there to the extent that they fit under a new tariff classification that applies to goods of Canadian origin. The issue of rules-of-origin is among those to be addressed in the NAFTA negotiations as well as in trade agreements with other Western Hemisphere countries.

Price controls on most goods and services in Venezuela were removed in 1989. Remaining price controls on white corn flour, vegetable oil, pasta, rice, and dry milk were removed in 1991. Following the failed coup attempt in February, the Government of Venezuela announced that it would stabilize the prices of these items. Venezuela currently requires import licenses for pork, soybean meal, sugar, and milk, but these are scheduled to be removed by the end of 1995. Quantitative restrictions continue to be applied to feed grain imports. Tariffs on grains and oilseeds range from 10 to 40 percent.

The Colombian government has removed many restrictions on foreign investment, freed interest rates, and liberalized its trade regime. Colombia reduced the number of tariff categories requiring licensing, and cut average tariff levels from 59 percent in November 1990 to 14 percent in February 1992.

Agriculture contributed 18 percent of Colombia's gross domestic product in 1990. Colombia retains import licenses for many agricultural products. Wheat, sorghum, barley, soybeans, soybean meal and oil, sunflower oil, and tallow are subject to import surcharges above the 15-percent ad valorem tariff. The

government of Colombia has recently dismantled its import monopoly on grains, oilseeds, and vegetable oil, but retains its monopoly on wheat. A price-band variable import levy on wheat, barley, corn, milled rice, sorghum, soybeans, sugar, and dry milk replaced the government monopolies.

Incentives for Free Trade Are Strong

If the NAFTA is successfully concluded, Mexico's preferential access to U.S. markets could reduce the import market shares of other Latin American and Caribbean producers. This creates an incentive for these countries to pursue free trade agreements with the NAFTA signatories.

Simultaneous summits by several regional Latin American groups on December 2-5, 1991, began to lay the groundwork for negotiating a Western Hemisphere Free Trade Area by the year 2000. While Latin American and Caribbean countries have strong incentives to pursue free trade with the U.S. by the end of the decade, the U.S. is proceeding more cautiously, preferring that institutions and economic policies required for free trade be in place before negotiations begin.

Many Latin American and Caribbean countries already have duty-free access to the U.S. and Canada for certain products under the Generalized System of Preferences (GSP), the Caribbean Basin Initiative (CBI), the Andean Trade Preferences Act (ATPA), and the Canadian Caribbean Assistance Program (Caribbean). Issues in future free trade negotiations are likely to include: (1) non-tariff barriers to trade in agricultural products; (2) rules-of-origin; and (3) sanitary and phytosanitary regula-

U.S. Enjoys Positive Trade Balance With Canada and Venezuela

Trade partner	Imports to U.S.	Exports from U.S.
----- \$ million -----		
Canada	3,152.4	4,197.4
Mexico	2,610.7	2,553.6
Chile	479.5	62.0
Colombia	787.8	116.4
Venezuela	49.6	351.3
Subtotal	7,080.0	7,280.7
World	22,770.9	39,326.7

Source: USDA and United Nations, 1990 data.

Duty-Free Arrangements In Place for Some Products

GSP. The Generalized System of Preferences, a nonreciprocal system of preferences, was authorized by the U.S. under the Trade Act of 1974. It is valid until July 4, 1993. Less developed countries receive duty-free treatment on about half of U.S. tariff items until they establish competitive industries. Eligibility is determined by various factors stipulated in the 1974 act as amended in 1984, including competitiveness, general level of development, market access, protection of intellectual property rights, trade-distorting investment practices, barriers to trade in services, and internationally recognized worker rights.

CBI. The Caribbean Basin Initiative is a broad nonreciprocal U.S. program designed to expand foreign and domestic investment in nontraditional sectors of Caribbean countries. The Caribbean Basin Economic Recovery Act (CBERA) of 1983 is the centerpiece of the CBI. It was granted a GATT waiver in 1985 lasting until September 30, 1995 when it was set to expire. However, the CBERA of 1990 made it permanent. CBERA is an ongoing program that allows duty-free entry to the U.S. for all goods, except selected textiles and apparel, leather goods, footwear, petroleum products, processed tuna, watches, and watch parts from Caribbean countries.

ATPA. The Andean Trade Preferences Act was signed by President Bush on December 4, 1991. The ATPA eliminates tariffs for a period of 10 years on most imports from Colombia, Ecuador, Peru, and Bolivia. The ATPA is intended to assist these countries in combating cocaine production and trafficking. Colombia expects to be the first country to take advantage of the ATPA, and the Andean Group has petitioned the U.S. to include Venezuela as an ATPA beneficiary.

Modeled after the Caribbean Basin Initiative (CBI), the ATPA excludes the same products as CBERA, but under ATPA these are subject to a 20-percent tariff reduction over 5 years. On October 29, 1990, the European Community adopted a similar package of trade preferences for Colombia, Ecuador, Peru, and Bolivia to help in their battle against cocaine production and trafficking.

Caribbean. The Canadian Caribbean Assistance Program was announced by Canada in 1986. Caribbean is an economic and trade development and assistance program for countries in the Caribbean. It provides for duty-free access to the Canadian market of nearly all imports from beneficiary countries. Excluded are textiles, clothing, footwear, luggage and handbags, leather garments, lubricating oils, and methanol.

tions. Proposed legislation in the U.S. Congress (HR 4882 and HR 4883, introduced on April 9, 1992) sets out among the principal objectives of trade negotiations towards a Western Hemisphere Free Trade Area, the protection of environmental quality "in the conduct of international trade, commerce, and finance."

The complexity of trade issues and the past history of free trade negotiations indicate that many years will be required to achieve free trade in the Western Hemisphere. [Ken Forsythe (202) 219-0689 and Liana Neff (202) 219-0610] **AO**

For more background on NAFTA . . .

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Statistical Indicators

Summary Data

Table 1.—Key Statistical Indicators of the Food & Fiber Sector

	1991				1992				
	II	III	IV	Annual	I	II	III F	IV F	Annual F
Prices received by farmers (1977=100)	151	147	139	148	141	141	—	—	—
Livestock & products	165	159	155	162	154	157	—	—	—
Crops	138	135	123	130	127	125	—	—	—
Prices paid by farmers, (1977=100)									
Production items	175	173	172	173	171	173	—	—	—
Commodities & services, interest, taxes, & wages	189	189	189	189	189	191	—	—	—
Cash receipts (\$ bil.) 1/	163	173	167	167	163	—	—	—	—
Livestock (\$ bil.)	84	84	89	88	84	—	—	—	—
Crops (\$ bil.)	80	88	85	82	79	—	—	—	—
Market basket (1982-84=100)									
Retail cost	139	137	137	137	138	—	—	—	—
Farm value	110	104	101	106	102	—	—	—	—
Spread	154	155	155	154	158	—	—	—	—
Farm value/retail cost (%)	28	27	28	27	26	—	—	—	—
Retail prices (1982-84=100)									
Food	137	136	137	137	138	138	139	139	—
At home	137	135	136	136	137	137	137	137	—
Away from home	137	139	141	138	140	141	142	143	—
Agricultural exports (\$ bil.) 2/	8.8	8.4	11.3	37.5	11.3	9.5	8.9	11.3	41.0
Agricultural imports (\$ bil.) 2/	6.5	5.3	5.8	22.6	6.1	5.7	5.4	5.8	23.0
Commercial production									
Red meat (mil. lb.)	9,636	9,986	10,316	39,402	10,086	9,951	10,450	10,490	40,977
Poultry (mil. lb.)	6,296	6,415	6,338	24,885	6,306	6,580	6,600	6,580	26,068
Eggs (mil. doz.)	1,420	1,441	1,475	5,758	1,458	1,450	1,485	1,480	5,853
Milk (bil. lb.)	38.6	36.3	36.2	148.5	37.9	38.7	36.6	36.6	149.9
Consumption, per capita									
Red meat and poultry (lb.)	50.1	51.0	52.9	201.7	50.4	51.6	52.7	53.9	208.7
Corn beginning stocks (mil. bu.) 3/	6,940.3	4,789.0	2,992.0	—	1,521.2	6,541.1	4,561.0	2,738.8	—
Corn use (mil. bu.) 3/	2,151.6	1,797.8	1,472.2	7,760.7	2,481.1	1,884.5	1,828.8	1,670.8	7,945.0
Prices 4/									
Choice steers—Neb. Direct (\$/cwt)	77.92	69.15	69.96	74.28	75.77	76.00	69-75	71-77	73-76
Barrows & gilts—7 mths. (\$/cwt)	53.34	50.85	39.84	48.88	38.68	44.80	39-45	36-42	40-43
Broilers—12-city (cts./lb.)	52.2	54.2	50.5	52.0	50.2	62.3	49-55	44-50	49-52
Eggs—NY gr. A large (cts./doz.)	70.2	77.1	76.8	77.5	63.8	62.0	62-68	68-74	64-67
Milk—all at plant (\$/cwt)	11.37	12.30	13.70	12.22	12.97	12.87	13.10-13.90	13.80-14.80	13.15-13.65
Wheat—KC HRW ordinary (\$/bu.)	3.00	3.11	3.82	3.18	4.50	—	—	—	—
Corn—Chicago (\$/bu.)	2.48	2.47	2.49	2.47	2.66	—	—	—	—
Soybeans—Chicago (\$/bu.)	5.73	5.65	5.66	5.69	5.75	—	—	—	—
Cotton—Avg. spot 41-34 (cts./lb.)	81.0	68.7	55.6	69.7	51.4	—	—	—	—
	1984	1985	1986	1987	1988	1989	1990	1991	1992 F
Gross cash income (\$ bil.)	158.1	157.9	152.8	165.1	171.9	179.9	186.0	183	179-186
Gross cash expenses (\$ bil.)	118.7	110.7	105.0	109.8	114.5	120.5	124.2	125	125-130
Net cash income (\$ bil.)	37.4	47.1	47.8	55.3	57.4	59.4	61.8	58	51-58
Net farm income (\$ bil.)	28.1	28.8	31.0	39.7	40.6	50.1	50.8	42	37-45
Farm real estate values 5/									
Nominal (\$ per acre)	801	713	640	599	632	661	668	681	685
Real (1982 \$)	789	657	568	518	530	533	517	506	491

1/ Quarterly data seasonally adjusted at annual rates. 2/ Annual data based on Oct.-Sept. fiscal years ending with year indicated. 3/ Sept.-Nov. first quarter; Dec.-Feb. second quarter; Mar.-May third quarter; Jun.-Aug. fourth quarter; Sept.-Aug. annual. Use includes exports & domestic disappearance. 4/ Simple averages, Jan.-Dec. 5/ 1990-92 values as of January 1, 1986-89 values as of February 1, 1984-85 values as of April 1. F = forecast, — = not available.

U.S. & Foreign Economic Data

Table 2.—U.S. Gross Domestic Product & Related Data

	Annual			1991				1992
	1989	1990	1991	I	II	III	IV	I R
\$ billion (quarterly data seasonally adjusted at annual rates)								
Gross domestic product	5,244.0	5,513.8	5,672.6	5,589.0	5,652.6	5,709.2	5,739.7	5,820.6
Gross national product	5,248.2	5,524.5	5,685.8	5,611.7	5,660.8	5,720.1	5,750.7	5,840.7
Personal consumption expenditures	3,517.9	3,742.6	3,889.1	3,827.7	3,868.5	3,916.4	3,943.7	4,020.6
Durable goods	459.8	485.9	445.2	440.7	440.0	452.9	447.3	465.7
Nondurable goods	1,148.9	1,217.7	1,251.9	1,248.3	1,252.9	1,257.4	1,251.1	1,272.7
Clothing & shoes	200.5	208.7	211.0	208.2	212.8	214.6	208.4	218.7
Food & beverages	563.3	595.8	619.3	616.3	620.5	620.4	620.0	628.7
Services	1,911.2	2,059.0	2,191.9	2,140.7	2,175.6	2,206.1	2,245.2	2,282.2
Gross private domestic investment	837.6	802.6	728.7	709.3	708.8	740.9	747.9	728.4
Fixed investment	801.6	802.7	745.2	748.4	745.8	744.5	742.0	750.2
Change in business inventories	36.0	0.0	-18.5	-39.2	-37.1	-3.6	6.0	-21.8
Net exports of goods & services	-82.9	-74.4	-30.7	-36.6	-17.2	-37.3	-31.4	-24.2
Government purchases of goods & services	971.4	1,042.9	1,087.5	1,068.8	1,092.5	1,089.1	1,079.5	1,095.9
1987 \$ billion (quarterly data seasonally adjusted at annual rates)								
Gross domestic product	4,836.9	4,884.9	4,848.8	4,824.0	4,840.7	4,862.7	4,868.0	4,900.9
Gross national product	4,840.7	4,894.6	4,860.2	4,843.7	4,847.8	4,872.0	4,877.3	4,917.8
Personal consumption expenditures	3,223.1	3,262.6	3,259.0	3,241.1	3,252.4	3,271.2	3,271.1	3,311.3
Durable goods	440.8	438.9	412.5	410.8	408.9	418.3	412.2	427.7
Nondurable goods	1,049.3	1,050.8	1,043.0	1,043.9	1,048.2	1,048.1	1,035.8	1,049.2
Clothing & shoes	187.9	187.4	182.9	181.7	186.1	184.7	179.0	186.2
Food & beverages	513.3	515.8	517.2	518.7	517.0	517.4	515.6	519.9
Services	1,732.9	1,773.0	1,803.4	1,788.3	1,797.2	1,808.8	1,823.1	1,834.4
Gross private domestic investment	789.2	744.5	673.7	657.0	656.3	686.5	694.9	679.7
Fixed investment	756.6	744.2	687.6	689.8	686.8	688.5	687.2	696.3
Change in business inventories	32.6	0.2	-13.9	-32.8	-30.4	0.1	7.6	-16.8
Net exports of goods & services	-75.7	-51.3	-20.9	-18.6	-12.3	-31.1	-21.3	-20.1
Government purchases of goods & services	900.4	929.1	937.1	944.5	944.3	936.1	923.3	930.0
GDP implicit price deflator (% change)	4.3	4.2	3.6	5.0	3.1	2.1	1.7	3.1
Disposable personal income (\$ bil.)	3,788.6	4,058.8	4,218.4	4,151.0	4,207.5	4,238.2	4,276.8	4,347.8
Disposable per. income (1987 \$ bil.)	3,471.2	3,538.3	3,534.9	3,514.8	3,537.4	3,539.9	3,547.5	3,580.9
Per capita disposable per. income (\$)	15,313	16,238	16,695	16,492	16,678	16,752	16,855	17,091
Per capita dis. per. income (1987 \$)	14,030	14,154	13,990	13,965	14,022	13,992	13,981	14,076
U.S. population, total, incl. military abroad (mil.) *	247.3	249.9	252.7	251.6	252.2	252.9	253.7	254.3
Civilian population (mil.) *	245.1	247.8	250.8	249.4	250.1	250.8	251.6	252.3
	Annual			1991				
	1989	1990	1991	May	Feb	Mar	Apr	May
Monthly data seasonally adjusted								
Industrial production (1987=100)	108.1	109.2	107.1	106.4	107.2	107.7	108.1	108.8
Leading economic indicators (1982=100)†	144.8	144.0	143.5	143.0	147.9	148.5	149.0	149.9
Civilian employment (mil. persons)	117.3	117.9	118.9	116.7	117.0	117.3	117.7	117.7
Civilian unemployment rate (%)	5.2	5.4	6.6	6.7	7.2	7.2	7.1	7.4
Personal income (\$ bil. annual rate)	4,380.2	4,679.8	4,834.4	4,825.5	4,968.4	4,990.7	4,994.3	5,008.3
Money stock—M2 (daily avg.) (\$ bil.) 1/	3,227.3	3,339.0	3,438.9	3,405.6	3,475.5	3,474.0	3,468.0	3,469.6
Three-month Treasury bill rate (%)	8.12	7.51	5.42	5.51	3.84	4.05	3.81	3.66
AAA corporate bond yield (Moody's) (%)	9.28	8.32	8.77	8.86	8.29	8.35	8.33	8.28
Housing starts (1,000) 2/	1,376	1,193	1,014	983	1,257	1,340	1,108	1,230
Auto sales at retail, total (mil.)	9.9	9.5	8.4	8.5	8.5	8.3	8.2	8.4
Business inventory/sales ratio	1.51	1.51	1.52	1.51	1.49	1.49	1.49	—
Sales of all retail stores (\$ bil.)	145.1	150.6	151.8	154.7	158.1	157.9	158.5	158.8
Nondurable goods stores (\$ bil.)	90.8	96.0	96.0	99.9	100.9	100.8	101.2	101.2
Food stores (\$ bil.)	28.8	30.2	30.9	32.0	31.0	31.8	32.2	32.1
Eating & drinking places (\$ bil.)	14.5	15.2	15.8	16.2	16.5	16.7	16.5	16.5
Apparel & accessory stores (\$ bil.)	7.8	7.9	8.0	8.1	8.3	8.1	8.2	8.1

1/ Annual data as of December of the year listed. 2/ Private, including farm. R = revised. P = preliminary. — = not available.

* Population estimates based on 1990 census.

Information contact: Ann Duncan (202) 219-0313.

Table 3.—Foreign Economic Growth, Inflation, & Exports

	1983	1984	1985	1986	1987	1988	1989	1990	1991 E	1992 F	1993 F	Average 1981-90
Annual percent change												
World, less U.S.												
Real GDP	2.4	3.4	3.0	3.1	3.1	3.9	3.2	2.2	-0.7	0.6	2.9	2.7
GDP deflator	7.6	7.1	7.4	7.2	6.8	11.5	12.0	42.1	24.0	63.0	41.0	12.1
Real exports	2.2	8.8	2.5	3.4	5.9	7.6	7.0	4.4	-0.8	2.1	4.7	4.7
Developed less U.S.												
Real GDP	2.1	3.4	3.4	2.6	3.3	4.4	3.8	3.3	1.9	1.6	2.9	2.9
GDP deflator	6.2	4.9	3.6	3.9	2.8	3.6	4.7	3.5	4.4	4.0	3.4	5.0
Real exports	2.7	10.6	5.4	-0.1	4.1	7.3	9.7	7.8	4.0	2.3	4.9	5.7
Eastern Europe & C.I.S.												
Real GDP	2.7	2.0	0.7	3.5	1.2	1.7	1.0	-3.0	-16.2	-12.2	-1.9	1.3
GDP deflator 1/	3.1	3.0	4.2	5.7	8.2	22.4	26.2	185.9	72.9	134.0	69.6	27.2
Real exports	2.8	3.7	-6.8	11.6	6.3	7.4	-5.9	-10.2	-31.8	-3.6	0.5	1.0
Developing												
Real GDP	3.0	4.5	4.0	4.1	4.0	4.4	3.5	2.7	3.2	5.2	5.2	3.4
GDP deflator	38.7	37.3	36.4	25.5	33.1	26.5	18.5	17.7	11.6	12.6	12.7	29.1
Real exports	0.4	7.0	1.7	7.4	10.9	9.2	8.8	5.2	3.4	4.6	6.0	4.8
Asia												
Real GDP	8.4	7.5	6.4	7.0	7.8	9.0	5.3	5.6	5.8	5.5	5.7	6.8
GDP deflator	6.3	7.5	5.9	4.4	7.6	8.2	6.1	6.3	8.5	8.4	7.4	6.7
Real exports	6.4	11.3	2.9	18.9	15.8	14.9	8.2	6.5	7.0	8.0	8.9	9.1
Latin America												
Real GDP	-2.7	3.7	3.6	4.4	3.0	0.0	1.3	-0.1	2.8	2.7	4.2	1.2
GDP deflator 1/	30.0	41.2	68.8	59.5	124.6	31.8	37.0	32.1	16.5	18.0	17.5	46.4
Real exports	2.0	12.0	2.0	0.0	8.0	6.8	10.4	3.6	-1.5	2.1	5.2	5.2
Africa												
Real GDP	0.7	2.1	2.4	1.8	0.3	2.4	3.1	1.4	1.8	2.9	3.1	1.7
GDP deflator	16.4	12.1	12.2	8.0	25.1	17.1	19.4	15.1	17.7	13.2	10.8	14.3
Real exports	-5.3	-1.5	3.5	-1.0	0.0	2.9	5.0	8.5	2.9	1.6	2.8	-1.9
Middle East												
Real GDP	3.5	1.5	0.9	-1.2	-0.7	1.6	2.5	-0.3	-3.7	11.4	7.5	0.7
GDP deflator	-3.6	1.7	3.2	5.6	15.0	10.3	12.8	19.3	-2.4	10.3	14.3	8.1
Real exports	-19.6	-6.7	-7.1	-3.6	24.6	4.8	21.0	4.3	1.7	9.3	33.7	0.0

1/ Excludes Yugoslavia, Argentina, Brazil, & Peru starting in 1989. E = estimate. F = forecast.

Information contact: Alberto Jorardo, (202) 219-0717.

Farm Prices

Table 4.—Indexes of Prices Received & Paid by Farmers, U.S. Average

	Annual			1991		1992					
	1989	1990	1991 P	June	Jan	Feb	Mar	Apr	May R	June P	
1977 = 100											
Prices received											
All farm products	147	149	148	152	138	142	143	141	141	139	
All crops	134	127	130	142	123	128	131	126	123	120	
Food grains	156	123	115	109	146	154	152	148	148	139	
Feed grains & hay	128	123	118	116	119	123	123	124	124	122	
Feed grains	123	118	115	113	119	123	123	123	124	120	
Cotton	98	107	108	112	85	82	82	86	86	92	
Tobacco	149	152	161	167	157	157	175	145	145	145	
Oil-bearing crops	102	94	91	94	84	85	84	84	86	86	
Fruit, all	194	188	268	364	207	210	204	211	203	186	
Fresh market 1/	205	197	299	410	217	221	214	223	213	200	
Commercial vegetables	145	142	136	153	137	166	195	146	123	116	
Fresh market	144	144	132	167	139	179	222	151	118	108	
Potatoes & dry beans	186	189	140	173	101	99	108	134	111	110	
Livestock & products	160	170	161	162	152	156	155	155	157	158	
Meat animals	174	193	186	192	187	177	177	176	176	179	
Dairy products	140	141	126	117	139	133	129	129	133	136	
Poultry & eggs	137	131	123	119	115	111	111	111	113	114	
Prices paid											
Commodities & services,											
interest, taxes, & wage rates	178	184	189	—	189	—	—	191	—	—	
Production items	185	171	173	—	171	—	—	173	—	—	
Feed	138	128	123	—	124	—	—	125	—	—	
Feeder livestock	194	213	214	—	199	—	—	199	—	—	
Seed	165	185	183	—	163	—	—	162	—	—	
Fertilizer	137	131	134	—	132	—	—	132	—	—	
Agricultural chemicals	132	139	151	—	154	—	—	160	—	—	
Fuels & energy	180	204	203	—	192	—	—	194	—	—	
Farm & motor supplies	151	154	154	—	160	—	—	160	—	—	
Auto & trucks	223	231	244	—	248	—	—	281	—	—	
Tractors & self-propelled machinery	193	202	211	—	216	—	—	217	—	—	
Other machinery	208	216	228	—	230	—	—	234	—	—	
Building & fencing	141	143	145	—	147	—	—	151	—	—	
Farm services & cash rent	181	166	170	—	171	—	—	171	—	—	
Int. payable per acre on farm real estate debt	178	174	172	—	166	—	—	166	—	—	
Taxes payable per acre on farm real estate	151	156	160	—	165	—	—	165	—	—	
Wage rates (seasonally adjusted)	185	181	201	—	216	—	—	216	—	—	
Production items, interest, taxes, & wage rates	167	172	175	—	174	—	—	176	—	—	
Ratio, prices received to prices paid (%) 2/	83	81	77	80	73	76	76	74	74	73	
Prices received (1910-14=100)	573	681	666	696	830	649	653	644	643	636	
Prices paid, etc. (parity index) (1910-14=100)	1,221	1,265	1,299	—	1,303	—	—	1,315	—	—	
Parity ratio (1910-14=100) (%) 2/	55	54	51	53	48	—	—	49	—	—	

1/ Fresh market for noncitrus; fresh market & processing for citrus. 2/ Ratio of index of prices received for all farm products to index of prices paid for commodities & services, interest, taxes, & wage rates. Ratio uses the most recent prices paid index. Prices paid data are quarterly & will be published in January, April, July, & October. R = revised. P = preliminary. — = not available.

Information contact: Ann Duncan (202) 219-0313.

Table 5.—Prices Received by Farmers, U.S. Average

	Annual 1/			1992						
	1989	1990	1991	June	Jan	Feb	Mar	Apr	May R	June P
CROPS										
All wheat (\$/bu.)	3.72	2.61	3.05	2.55	3.54	3.78	3.72	3.65	3.66	3.40
Rice, rough (\$/cwt)	7.35	6.70	7.70	7.43	7.77	7.91	7.72	7.39	7.11	7.03
Corn (\$/bu.)	2.38	2.28	2.40	2.31	2.40	2.47	2.49	2.48	2.48	2.42
Sorghum (\$/cwt)	3.75	3.79	4.15	3.89	4.07	4.20	4.30	4.29	4.31	4.20
All hay, baled (\$/ton)	65.40	80.60	71.00	74.50	69.00	70.60	70.10	73.00	74.20	75.50
Soybeans (\$/bu.)	5.89	5.74	5.80	5.56	5.54	5.59	5.67	5.66	5.87	5.82
Cotton, upland (cts./lb.)	63.6	67.1	—	67.5	51.6	49.6	49.9	52.0	52.2	55.7
Potatoes (\$/cwt)	7.36	6.08	5.05	7.42	4.05	3.92	4.33	5.56	4.42	4.39
Lettuce (\$/cwt) 2/	12.60	11.50	12.10	9.51	7.14	8.82	12.10	9.75	11.30	7.96
Tomatoes fresh (\$/cwt) 2/	33.10	27.30	32.60	59.50	40.50	76.00	60.70	32.40	16.70	23.70
Onions (\$/cwt)	11.40	10.50	11.80	14.10	10.70	12.90	21.10	23.30	12.50	9.83
Dry edible beans (\$/cwt)	28.50	16.50	15.60	17.80	15.00	14.90	15.60	16.40	16.70	16.30
Apples for fresh use (cts./lb.)	13.9	20.9	—	23.2	24.9	24.9	24.2	24.3	25.0	24.9
Pears for fresh use (\$/ton)	336.00	360.00	392.00	793.00	383.00	347.00	364.00	379.00	437.00	543.00
Oranges, all uses (\$/box) 3/	7.08	6.16	7.31	19.24	5.93	6.90	6.04	6.59	6.73	5.14
Grapefruit, all uses (\$/box) 3/	4.41	5.86	5.26	5.21	5.92	5.68	7.11	7.65	3.98	4.02
LIVESTOCK										
Beef cattle (\$/cwt)	69.70	74.80	72.90	73.60	68.90	72.50	72.90	72.60	71.90	71.00
Calves (\$/cwt)	91.80	96.50	100.00	106.00	88.30	92.80	94.10	92.00	89.60	89.00
Hogs (\$/cwt)	43.20	54.00	48.80	54.70	36.40	39.80	38.90	40.70	44.80	46.30
Lambs (\$/cwt)	67.30	56.00	52.60	55.30	53.50	55.20	63.40	69.30	68.60	67.40
All milk, sold to plants (\$/cwt)	13.56	13.74	12.26	11.40	13.50	12.90	12.50	12.50	12.90	13.20
Milk, manuf. grade (\$/cwt)	12.38	12.34	11.05	10.40	11.60	11.30	11.10	11.50	11.90	12.20
Broilers (cts./lb.)	36.1	32.4	31.0	31.5	30.0	29.8	29.7	29.4	31.7	31.6
Eggs (cts./doz.) 4/	70.0	70.4	66.9	59.1	58.2	54.3	54.2	54.5	51.7	53.0
Turkeys (cts./lb.)	40.0	38.4	38.5	38.7	37.4	35.3	37.0	36.8	37.6	37.4
Wool (cts./lb.) 5/	124.0	60.00	55.0	63.0	30.6	47.9	62.7	75.4	90.3	87.1

1/ Season average price by crop year for crops. Calendar year average of monthly prices for livestock. 2/ Excludes Hawaii. 3/ Equivalent on-tree returns.
 4/ Average of all eggs sold by producers including hatching eggs & eggs sold at retail. 5/ Average local market price, excluding incentive payments.
 P = preliminary. R = revised. — not available.

Information contact: Ann Duncan (202) 219-0313.

Producer & Consumer Prices

Table 6.—Consumer Price Index for All Urban Consumers, U.S. Average (Not Seasonally Adjusted)

	Annual	1991			1992					
	1991	June	Nov	Dec	Jan	Feb.	Mar	Apr	May	June
1982-84=100										
Consumer Price Index, all items	136.2	136.0	137.8	137.9	136.1	136.6	139.3	139.5	139.7	140.2
Consumer Price Index, less food	136.1	135.7	138.0	138.1	136.3	136.8	139.5	139.7	140.1	140.7
All food	136.3	137.2	136.2	136.7	137.2	137.5	138.1	138.1	137.4	137.4
Food away from home	137.9	137.9	139.3	139.6	139.7	139.9	140.1	140.2	140.4	140.7
Food at home	135.8	137.4	135.0	135.5	136.4	136.6	137.5	137.4	136.2	136.1
Meats 1/	132.5	133.5	131.5	130.8	130.0	130.3	131.1	130.2	130.3	131.0
Beef & veal	132.4	133.2	131.9	131.7	131.2	131.8	133.4	133.2	132.6	132.7
Pork	134.1	136.1	131.3	128.5	127.8	127.2	127.0	125.1	126.6	127.9
Poultry	131.5	131.5	129.3	130.2	131.2	128.1	126.2	129.2	129.1	130.7
Fish	148.3	148.7	149.5	150.4	154.6	151.0	152.6	153.5	151.6	149.1
Eggs	121.2	110.2	115.4	123.5	113.9	110.7	106.0	105.1	104.2	100.7
Dairy products 2/	125.1	123.9	126.2	127.4	128.2	128.1	127.8	127.4	127.0	127.8
Fats & oils 3/	131.7	131.6	129.8	129.3	130.7	131.3	129.8	129.6	130.4	130.2
Fresh fruit	193.9	204.4	183.9	188.6	188.6	183.1	188.7	187.4	190.0	162.9
Processed fruit	131.6	131.2	131.4	131.5	136.0	136.5	138.8	140.0	140.0	138.3
Fresh vegetables	154.4	180.5	149.6	150.7	152.7	163.5	172.7	175.4	149.6	146.9
Potatoes	144.6	165.8	129.9	129.0	130.9	131.7	132.1	135.6	136.7	141.0
Processed vegetables	128.5	130.0	127.7	127.6	129.2	129.0	128.6	128.6	128.8	129.0
Cereals & bakery products	145.8	145.7	147.5	147.4	148.6	149.3	149.7	150.6	150.7	151.6
Sugar & sweets	129.3	129.5	130.6	130.9	132.0	132.4	132.9	133.0	132.9	133.3
Beverages, nonalcoholic	114.1	113.9	113.0	112.5	114.9	116.0	115.3	114.4	114.5	115.0
Apparel										
Apparel, commodities less footwear	127.4	125.2	132.2	128.2	126.0	128.7	132.3	132.0	131.8	129.0
Footwear	120.9	120.2	123.4	121.8	121.3	122.4	124.6	125.6	126.0	125.4
Tobacco & smoking products	202.7	202.9	209.0	211.7	212.6	213.4	213.5	214.9	220.0	219.2
Beverages, alcoholic	142.8	143.0	144.0	143.9	144.8	145.7	146.7	147.2	147.4	147.5

1/ Beef, veal, lamb, pork, & processed meat. 2/ Includes butter. 3/ Excludes butter.

Information contact: Ann Duncan (202) 219-0313.

Table 7.—Producer Price Indexes, U.S. Average (Not Seasonally Adjusted)

	Annual			1991		1992				
	1989	1990	1991 P	May	Dec	Jan R	Feb	Mar	Apr	May
	1982 = 100									
All commodities	112.2	118.3	116.5	116.5	115.9	115.8	116.1	116.1	116.3	117.1
Finished goods 1/	113.8	119.2	121.7	121.9	121.9	121.8	121.9	122.0	122.2	123.1
All foods 2/	117.8	123.2	122.2	124.2	120.2	120.1	121.3	121.2	120.8	120.7
Consumer foods	118.7	124.4	124.1	125.8	122.3	122.5	123.5	123.4	122.9	122.9
Fresh fruit & melons	113.2	118.1	129.4	134.8	100.6	99.2	88.7	85.7	84.6	86.8
Fresh & dried vegetables	118.7	118.1	103.8	148.7	80.1	108.1	135.1	132.4	104.1	99.8
Dried fruit	103.0	108.7	111.5	111.4	114.9	114.0	115.1	115.1	114.4	115.1
Canned fruit & juice	122.7	127.0	128.8	127.2	133.5	134.7	136.9	136.6	135.9	136.5
Frozen fruit & juice	123.9	139.0	115.1	112.7	131.8	134.0	134.8	134.4	134.4	129.9
Fresh veg. excl. potatoes	103.9	107.8	100.2	157.0	78.1	117.2	154.7	147.9	99.7	90.9
Canned veg. & juices	118.8	118.7	112.8	114.0	110.4	110.3	108.8	109.2	108.8	109.8
Frozen vegetables	115.5	118.4	117.6	116.1	116.8	116.8	116.1	115.8	118.6	116.3
Potatoes	153.6	157.3	125.7	138.1	96.4	94.8	82.8	95.8	112.5	104.7
Eggs	3/	3/	3/	3/	100.0	77.1	79.1	78.8	78.0	71.9
Bakery products	135.4	141.0	146.6	145.8	149.0	149.5	150.1	150.8	151.8	152.8
Meats	104.8	117.0	113.3	117.8	105.5	103.8	105.8	108.5	107.1	108.9
Beef & veal	108.9	118.0	112.1	117.3	106.9	106.7	110.2	111.2	111.9	112.1
Pork	97.7	119.8	113.0	118.4	98.2	93.3	95.1	95.2	95.6	100.9
Processed poultry	120.4	113.8	109.9	112.2	105.3	105.1	104.8	106.9	107.4	109.3
Fish	142.9	147.2	151.3	157.3	149.9	153.1	167.2	168.5	176.5	153.6
Dairy products	110.6	117.2	114.6	111.5	120.0	118.3	118.1	114.9	115.4	116.7
Processed fruits & vegetables	119.9	124.7	119.5	119.3	121.6	122.1	122.2	122.2	121.9	121.8
Shortening & cooking oil	118.8	123.2	118.4	116.8	114.3	123.2	113.2	115.3	113.8	115.1
Soft drinks	177.7	122.3	125.8	125.1	124.4	126.2	125.9	125.7	124.9	125.2
Consumer finished goods less foods	108.9	115.3	118.7	118.2	119.2	118.8	118.6	118.9	119.4	120.7
Beverages, alcoholic	115.2	117.2	123.7	123.5	123.3	125.8	125.9	125.9	126.4	126.7
Apparel	114.5	117.5	119.6	119.3	120.6	121.7	121.3	121.4	121.7	121.8
Footwear	120.8	125.6	128.6	128.7	129.6	130.8	129.8	132.0	131.5	131.8
Tobacco products	194.8	221.4	249.3	243.4	267.2	268.1	268.4	268.4	268.4	282.7
Intermediate materials 4/	112.0	114.5	114.4	114.0	113.7	113.2	113.8	113.8	113.8	114.4
Materials for food manufacturing	112.7	117.9	115.3	115.5	114.4	113.7	114.2	113.5	113.8	114.6
Flour	114.6	103.6	97.6	96.3	105.0	111.8	122.7	113.4	112.5	111.1
Refined sugar 5/	118.2	122.7	121.8	121.3	120.4	120.0	121.5	121.2	120.6	120.4
Crude vegetable oils	103.7	115.8	103.2	102.5	95.9	94.7	98.1	103.2	98.2	101.6
Crude materials 6/	103.1	108.9	101.2	102.1	97.7	98.9	99.0	98.8	98.9	101.0
Foodstuffs & feedstuffs	111.2	113.1	105.5	108.7	101.8	103.7	106.4	107.5	105.5	108.2
Fruits & vegetables & nuts 7/	114.8	117.5	114.5	141.9	68.7	99.6	108.3	104.1	82.2	91.4
Grains	106.4	97.4	92.0	92.7	97.7	103.1	108.2	108.5	102.7	103.5
Livestock	108.1	115.6	107.9	115.2	97.7	100.0	106.0	107.0	108.7	108.0
Poultry, live	128.8	118.8	111.2	113.9	105.1	106.9	102.8	105.4	102.8	118.1
Fibers, plant & animal	107.8	117.8	115.1	139.2	89.7	85.4	83.4	84.4	89.0	93.4
Fluid milk	98.8	100.8	89.3	83.4	99.6	97.7	95.2	92.0	90.5	93.8
Oilseeds	123.8	112.1	106.4	107.5	103.0	104.3	105.2	110.4	107.9	113.6
Tobacco, leaf	93.8	95.8	100.4	99.8	104.8	102.2	102.2	113.9	94.4	94.4
Sugar, raw cane	115.5	119.2	113.7	112.8	113.5	112.6	112.4	112.6	112.3	111.3

1/ Commodities ready for sale to ultimate consumer. 2/ Includes all raw, intermediate, & processed foods (excludes soft drinks, alcoholic beverages, & manufactured animal feeds). 3/ New index beginning Dec. 1991. 4/ Commodities requiring further processing to become finished goods. 5/ All types & sizes of refined sugar. 6/ Products entering market for the first time that have not been manufactured at that point. 7/ Fresh & dried. P = preliminary. R = revised.

Information contact: Ann Duncan (202) 219-8313.

Farm-Retail Price Spreads

Table 8.—Farm-Retail Price Spreads

	Annual			1991		1992				
	1989	1990	1991	May	Dec	Jan	Feb	Mar	Apr	May
Market basket 1/										
Retail cost (1982-84=100)	124.8	133.5	137.4	138.4	137.2	137.8	138.0	138.9	139.0	137.8
Farm value (1982-84=100)	107.1	113.1	108.1	111.2	101.6	100.4	102.0	104.2	104.0	102.2
Farm-retail spread (1982-84=100)	134.1	144.5	154.2	153.0	158.4	157.9	157.3	157.5	157.7	158.9
Farm value-retail cost (%)	30.1	29.7	27.0	28.1	25.9	25.5	25.9	26.3	26.2	28.0
Meat products										
Retail cost (1982-84=100)	116.7	128.5	132.5	133.4	130.8	130.0	130.3	131.1	130.2	130.3
Farm value (1982-84=100)	103.6	116.8	110.0	117.0	97.8	97.0	101.3	104.7	105.7	107.5
Farm-retail spread (1982-84=100)	130.2	140.4	155.8	150.2	164.7	163.9	160.0	158.1	155.3	153.7
Farm value-retail cost (%)	44.9	46.0	42.0	44.4	37.9	37.8	39.4	40.6	41.1	41.8
Dairy products										
Retail cost (1982-84=100)	115.8	126.5	125.1	124.4	127.4	128.2	128.1	127.8	127.4	127.0
Farm value (1982-84=100)	99.1	101.7	90.0	84.9	101.9	98.7	95.4	93.0	91.5	92.0
Farm-retail spread (1982-84=100)	130.8	149.5	157.5	160.8	150.9	155.4	158.2	159.9	160.5	159.2
Farm value-retail cost (%)	41.1	38.5	34.5	32.7	38.4	38.9	35.7	34.9	34.5	34.8
Poultry										
Retail cost (1982-84=100)	132.7	132.5	131.5	132.7	130.2	131.2	128.1	128.2	129.2	129.1
Farm value (1982-84=100)	117.1	107.6	102.5	103.7	98.4	99.4	98.1	98.4	97.5	104.1
Farm-retail spread (1982-84=100)	150.8	161.1	164.9	166.1	166.8	167.8	162.6	162.5	165.7	157.9
Farm value-retail cost (%)	47.2	43.5	41.7	41.8	40.4	40.5	41.0	41.1	40.4	43.2
Eggs										
Retail cost (1982-84=100)	118.5	124.1	121.2	112.4	123.5	113.9	110.7	106.0	105.1	104.2
Farm value (1982-84=100)	107.5	108.0	100.9	85.4	109.8	83.5	74.4	72.9	73.7	67.0
Farm-retail spread (1982-84=100)	138.1	153.2	157.8	160.9	148.1	168.5	175.8	165.5	161.5	171.0
Farm value-retail cost (%)	58.3	55.9	53.5	48.8	57.1	47.1	43.2	44.2	45.1	41.3
Cereal & bakery products										
Retail cost (1982-84=100)	132.4	140.0	145.8	145.3	147.4	148.9	149.3	148.7	150.8	150.7
Farm value (1982-84=100)	101.7	90.5	85.3	85.3	95.8	97.8	104.2	99.8	99.0	98.1
Farm-retail spread (1982-84=100)	136.7	148.9	154.3	153.7	154.6	158.1	155.6	156.7	157.8	158.0
Farm value-retail cost (%)	9.4	7.9	7.2	7.2	8.0	8.0	8.5	8.2	8.0	8.0
Fresh fruits										
Retail cost (1982-84=100)	154.7	174.6	200.1	207.3	198.9	196.7	188.6	191.5	192.0	197.2
Farm value (1982-84=100)	108.5	128.3	174.4	182.6	144.1	132.8	125.2	117.2	114.5	118.8
Farm-retail spread (1982-84=100)	176.0	195.9	211.9	218.7	221.3	226.2	214.9	225.8	227.8	233.5
Farm value-retail cost (%)	22.2	23.2	27.5	27.8	23.1	21.3	21.2	19.3	18.8	19.0
Fresh vegetables										
Retail cost (1982-84=100)	143.1	151.1	154.4	167.3	150.7	152.7	163.5	172.7	175.4	149.6
Farm value (1982-84=100)	123.3	124.4	110.8	169.0	82.5	103.8	123.0	155.8	156.7	100.7
Farm-retail spread (1982-84=100)	153.2	164.9	178.8	166.4	185.7	177.8	184.3	181.4	185.0	174.8
Farm value-retail cost (%)	29.3	28.0	24.4	34.3	18.6	23.1	25.5	30.6	30.3	22.8
Processed fruits & vegetables										
Retail cost (1982-84=100)	125.0	132.7	130.2	130.5	129.7	132.9	134.3	134.2	135.0	135.0
Farm value (1982-84=100)	132.4	144.0	120.8	121.9	128.7	129.1	128.8	129.1	129.9	129.2
Farm-retail spread (1982-84=100)	122.7	129.1	133.2	133.2	130.0	134.1	136.0	135.8	136.6	136.8
Farm value-retail cost (%)	25.2	25.8	22.0	22.2	23.6	23.1	22.8	22.9	22.9	22.8
Fats & oils										
Retail cost (1982-84=100)	121.2	126.3	131.7	132.8	129.3	130.7	131.3	129.8	129.6	130.4
Farm value (1982-84=100)	95.6	107.1	98.0	100.4	91.0	90.7	89.2	96.7	91.5	96.9
Farm-retail spread (1982-84=100)	130.6	133.4	144.2	144.4	143.4	145.4	146.8	142.0	143.6	142.7
Farm value-retail cost (%)	21.2	22.8	20.0	20.4	18.9	18.7	18.3	20.0	19.0	20.0
	Annual			1991		1992				
	1989	1990	1991	June	Jan	Feb	Mar	Apr	May	June
Beef, Choice										
Retail price 2/ (cts./lb.)	285.7	281.0	288.3	292.4	278.7	282.5	285.6	287.6	285.8	287.1
Wholesale value 3/ (cts.)	176.6	189.6	182.5	186.1	176.6	184.6	183.3	182.6	183.4	180.8
Net farm value 4/ (cts.)	157.6	168.4	160.2	160.9	155.2	165.7	168.5	168.3	164.1	159.4
Farm-retail spread (cts.)	108.1	112.6	128.1	131.5	123.5	116.8	117.1	119.3	121.7	127.7
Wholesale-retail 5/ (cts.)	88.9	91.4	105.8	106.3	102.1	97.9	102.3	105.0	102.4	108.3
Farm-wholesale 6/ (cts.)	19.2	21.2	22.3	25.2	21.4	18.9	14.8	14.3	19.3	21.4
Farm value-retail price (%)	59	60	56	55	56	59	59	59	57	56
Pork										
Retail price 2/ (cts./lb.)	182.9	212.6	211.9	214.6	198.7	199.8	198.2	194.2	196.4	197.1
Wholesale value 3/ (cts.)	99.2	118.3	108.9	116.0	93.6	99.3	95.6	95.2	101.2	104.8
Net farm value 4/ (cts.)	70.4	87.2	78.4	87.7	59.2	64.9	62.4	66.4	73.3	76.1
Farm-retail spread (cts.)	112.5	125.4	133.5	126.9	139.5	134.9	135.8	127.8	123.1	121.0
Wholesale-retail 5/ (cts.)	83.7	94.3	103.0	98.6	105.1	100.5	102.6	99.0	95.2	92.3
Farm-wholesale 6/ (cts.)	28.8	31.1	30.5	28.3	34.4	34.4	33.2	28.8	27.9	28.7
Farm value-retail price (%)	38	41	37	41	30	32	31	34	37	39

1/ Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by BLS. The farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for byproduct. Farm values are based on prices at first point of sale & may include marketing charges such as grading & packing for some commodities. The farm-retail spread, the difference between the retail price & the farm value, represents charges for assembling, processing, transporting, distributing. 2/ Weighted average price of retail cuts from pork & choice yield grade 3 beef. Prices from BLS. 3/ Value of wholesale (boxed beef) & wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs & byproduct values. 4/ Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of byproducts. 5/ Charges for retailing & other marketing services such as wholesaling, and in-city transportation. 6/ Charges for livestock marketing, processing, & transportation.

Information contacts: Denis Dunham (202) 219-0870, Larry Duewer (202) 219-0712.

Table 9.—Price Indexes of Food Marketing Costs

(See the June 1992 issue.)

Information contact: Denis Dunham (202) 219-0870.

Livestock & Products

Table 10.—U.S. Meat Supply & Use

	Beg. stocks	Produc- tion 1/	Imports	Total supply	Exports	Ending stocks	Consumption		Primary market price 3/
							Total	Per capita 2/	
Million pounds 4/							Pounds		
Beef:									
1989	422	23,087	2,179	25,688	1,023	335	24,330	69.3	73.86
1990	335	22,743	2,356	25,434	1,006	397	24,031	67.8	76.56
1991	397	22,917	2,406	25,720	1,188	419	24,113	67.3	74.28
1992 F	419	23,252	2,370	26,041	1,325	325	24,391	67.6	72-76
Pork									
1989	437	15,813	896	17,146	262	313	16,571	52.0	44.03
1990	313	15,354	898	16,565	239	296	16,030	49.8	54.45
1991	296	15,999	775	17,070	283	393	16,394	50.4	48.88
1992 F	393	17,246	695	18,334	345	390	17,599	53.7	39-43
Veal 5/									
1989	5	355	0	360	0	4	356	1.2	91.84
1990	4	327	0	331	0	6	325	1.1	96.51
1991	6	306	0	312	0	7	305	1.0	99.95
1992 F	7	306	0	313	0	5	308	1.0	88-92
Lamb & mutton									
1989	6	347	63	416	2	8	406	1.5	67.32
1990	8	363	59	430	3	8	419	1.5	55.54
1991	8	363	60	431	3	8	422	1.5	53.21
1992 F	6	356	66	428	3	9	416	1.5	59-63
Total red meat									
1989	870	39,602	3,137	43,610	1,287	660	41,663	124.0	—
1990	660	38,787	3,313	42,760	1,248	707	40,805	120.1	—
1991	707	39,585	3,241	43,533	1,474	825	41,234	120.2	—
1992 F	825	41,180	3,131	45,116	1,673	729	42,714	123.7	—
Broilers									
1989	36	17,227	0	17,263	814	38	16,411	58.7	59.0
1990	38	16,430	0	16,468	1,143	26	17,209	60.1	54.8
1991	26	19,591	0	19,617	1,261	36	18,320	61.8	52.0
1992 F	36	20,613	0	20,679	1,245	35	19,389	64.9	49-53
Mature chicken									
1989	157	531	0	688	24	189	475	1.9	—
1990	189	523	0	713	25	224	464	1.9	—
1991	224	508	0	732	28	274	429	1.7	—
1992 F	274	531	0	805	30	250	525	2.1	—
Turkeys									
1989	250	4,136	0	4,385	41	236	4,109	16.6	66.7
1990	236	4,514	0	4,750	54	306	4,390	17.6	63.2
1991	306	4,603	0	4,909	103	264	4,541	18.0	61.3
1992 F	264	4,730	0	4,994	125	270	4,599	18.1	59-63
Total poultry									
1989	442	21,894	0	22,336	878	463	20,994	77.2	—
1990	463	23,468	0	23,931	1,222	557	22,152	79.5	—
1991	557	24,701	0	25,258	1,392	575	23,291	81.5	—
1992 F	575	25,873	0	26,448	1,400	555	24,493	85.0	—
Red meat & poultry									
1989	1,312	61,496	3,137	65,945	2,165	1,123	62,657	201.2	—
1990	1,123	62,255	3,313	66,691	2,469	1,264	62,958	199.6	—
1991	1,264	64,286	3,241	68,791	2,867	1,400	64,525	201.7	—
1992 F	1,400	67,033	3,131	71,564	3,073	1,284	67,206	208.7	—

1/ Total including farm production for red meats & federally inspected plus nonfederally inspected for poultry. 2/ Retail weight basis. (The beef carcass-to-retail conversion factor was 70.5). 3/ Dollars per cwt for red meat; cents per pound for poultry. Beef: Medium # 1, Nebraska Direct 1,100-1,300 lb.; pork: barrows & gilts, 6 markets; veal: farm price of calves; lamb & mutton: Choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 6-16 lb. young hens. 4/ Carcass weight for red meats & certified ready-to-cook for poultry. 5/ Beginning 1989 veal trade no longer reported separately. F = forecast. — = not available.

Information contacts: Polly Cochran, or Maxine Davis (202) 219-0767.

Table 11.—U.S. Egg Supply & Use

	Beg. stocks	Pro- duc- tion	Im- ports	Total supply	Ex- ports	Hatch- ing use	Ending stocks	Consumption		
								Total	Per capita	Wholesale price*
									No.	Cts./doz.
Million dozen										
1987	10.4	5,868.2	5.0	5,884.2	111.2	599.1	14.4	5,158.5	254.9	61.6
1988	14.4	5,784.2	5.3	5,803.9	141.8	605.9	15.2	5,041.0	246.9	62.1
1989	15.2	5,598.2	25.2	5,638.5	91.6	643.9	10.7	4,892.4	237.3	81.9
1990	10.7	5,665.3	9.1	5,685.0	100.5	678.5	11.6	4,894.4	235.0	82.2
1991	11.6	5,757.8	2.3	5,771.7	154.3	708.1	13.0	4,896.4	232.7	77.5
1992 F	13.0	5,852.5	2.6	5,868.0	157.5	741.2	12.0	4,972.3	234.5	64-68

* Cartoned grade A large eggs, New York. F = forecast.

Information contact: Maxine Davis (202) 219-0767.

Table 12.—U.S. Milk Supply & Use^{1/}

	Production	Farm use	Commercial			Total commercial supply	CCC net removals	Commercial		All milk price 1/	CCC net removals	
			Farm marketing ^{2/}	Beg. stock	Imports			Ending stocks	Disappearance		Skim solids basis	Total solids basis 2/
			Billion pounds (milkfat basis)								\$/cwt	Billion pounds
1985	143.0	2.5	140.6	4.8	2.8	148.2	13.3	4.5	130.4	12.76	17.2	15.8
1986	143.1	2.4	140.7	4.6	2.7	147.9	10.8	4.1	133.0	12.51	14.3	12.9
1987	142.7	2.3	140.5	4.1	2.5	147.1	8.8	4.6	135.7	12.54	9.3	8.3
1988	145.2	2.2	142.9	4.6	2.4	149.9	9.1	4.3	136.5	12.26	5.5	6.9
1989	144.2	2.1	142.2	4.3	2.5	149.0	9.4	4.1	135.5	13.56	0.4	4.0
1990	148.3	2.0	146.3	4.1	2.7	153.1	9.0	5.1	138.0	13.73	1.6	4.6
1991	148.5	2.0	146.5	5.1	2.6	154.3	10.5	4.6	138.3	12.23	4.0	6.6
1992	148.9	2.0	147.8	4.5	2.6	154.9	8.7	4.4	141.8	13.40	1.4	4.3

^{1/} Delivered to plants & dealers; does not reflect deductions. ^{2/} Arbitrarily weighted average of milkfat basis (40 percent) & skim solids basis (60 percent). F = forecast.

Information contact: Jim Miller (202) 219-0770.

Table 13.—Poultry & Eggs

	Annual			1991		1992				
	1989	1990	1991	May	Dec	Jan	Feb	Mar	Apr	May
Broilers										
Federally inspected slaughter, certified (mil. lb.)	17,334.2	18,553.9	19,727.7	1,743.9	1,615.9	1,775.5	1,580.2	1,760.5	1,729.7	1,740.3
Wholesale price, 12-city (cts./lb.)	59.0	54.8	52.0	52.2	49.5	50.1	50.3	50.2	49.5	55.1
Price of grower feed (\$/ton)	237	218	207	207	207	207	206	205	210	211
Broiler-feed price ratio 1/	3.0	3.0	3.0	3.0	2.8	2.9	2.9	2.9	2.8	3.0
Stocks beginning of period (mil. lb.)	35.9	38.3	26.1	35.5	38.8	36.1	39.3	36.4	31.8	35.4
Broiler-type chicks hatched (mil.) 2/	5,946.9	6,324.4	6,613.3	586.3	571.5	575.2	531.3	585.9	572.4	595.8
Turkeys										
Federally inspected slaughter, certified (mil. lb.)	4,174.8	4,560.9	4,651.9	398.2	349.9	362.9	331.7	361.3	385.2	372.4
Wholesale price, Eastern U.S., 8-16 lb. young hens (cts./lb.)	66.7	63.2	61.2	62.3	65.2	64.7	55.0	58.8	60.0	60.0
Price of turkey grower feed (\$/ton)	251.0	238	230	232	224	241	235	239	237	243
Turkey-feed price ratio 1/	3.2	3.2	3.3	3.3	3.4	3.1	3.0	3.1	3.1	3.1
Stocks beginning of period (mil. lb.)	249.7	235.9	306.4	408.5	305.5	264.1	325.5	354.1	393.3	430.2
Poultry placed in U.S. (mil.)	290.7	304.9	308.0	29.9	24.4	25.7	25.5	27.8	28.2	28.6
Eggs										
Farm production (mil.)	67,178	67,983	69,095	5,777	6,011	5,927	5,540	6,023	5,819	5,907
Average number of layers (mil.)	269	270	274	272	279	278	278	278	277	276
Rate of lay (eggs per layer on farms)	249.5	251.7	252.4	21.3	21.5	21.2	19.9	21.7	21.0	21.4
Cartoned price, New York, grade A large (cts./doz.) 3/	81.9	82.2	77.5	67.0	80.0	66.6	61.7	63.1	65.0	68.9
Price of laying feed (\$/ton)	208	200	192	188	199	201	201	201	198	199
Egg-feed price ratio 1/	6.7	7.0	6.9	6.1	7.2	5.8	5.4	5.4	5.5	5.2
Stocks, first of month										
Shell (mil. doz.)	0.27	0.36	0.45	0.36	0.36	0.63	0.60	0.75	0.84	0.81
Frozen (mil. doz.)	14.9	10.3	11.2	9.8	11.5	12.3	15.2	14.6	15.0	14.3
Replacement chicks hatched (mil.)	383	398	417	38.1	32.7	32.5	31.9	36.3	35.8	38.3

^{1/} Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight. ^{2/} Placement of broiler chicks is currently reported for 15 States only; henceforth, hatch of broiler-type chicks will be used as a substitute. ^{3/} Price of cartoned eggs to volume buyers for delivery to retailers.

Information contact: Maxine Davis (202) 219-0767.

Table 14.—Dairy

	Annual			1991		1992					
	1989	1990	1991	May	Dec	Jan	Feb	Mar	Apr	May	
Milk prices, Minnesota-Wisconsin, 3.5% fat (\$/cwt) 1/	12.37	12.21	11.05	10.23	12.10	11.71	11.21	10.98	11.48	12.06	
Wholesale prices											
Butter, grade A Chl. (cts./lb.)	127.9	102.1	99.3	97.2	98.4	94.9	86.2	86.2	86.2	83.8	
Am. cheese, Wis. assembly pt. (cts./lb.)	138.8	136.7	124.4	115.0	130.2	125.3	119.0	119.8	131.9	139.9	
Nonfat dry milk (cts./lb.) 2/	105.6	100.6	94.0	86.1	108.6	95.3	97.6	101.8	105.9	110.2	
USDA net removals 3/											
Total milk equiv. (mil. lb.) 4/	9,357.0	8,951.2	10,429.1	1,450.9	748.0	2,146.4	1,395.2	1,271.6	1,051.1	1,154.3	
Butter (mil. lb.)	413.4	400.3	442.8	62.8	33.8	96.3	83.5	58.0	46.6	51.4	
Am. cheese (mil. lb.)	37.4	21.5	76.9	8.2	0.7	4.8	0.8	8/	2.2	0	
Nonfat dry milk (mil. lb.)	0	117.8	268.3	28.8	13.7	9.0	13.5	9.3	7.6	10.0	
Milk											
Milk prod. 21 States (mil. lb.)	122,509	125,772	125,683	11,240	10,418	10,684	10,230	11,092	10,866	11,258	
Milk per cow (lb.)	14,369	14,778	14,977	1,339	1,252	1,288	1,237	1,343	1,316	1,383	
Number of milk cows (1,000)	8,526	8,512	8,392	8,396	8,322	8,296	8,273	8,262	8,254	8,262	
U.S. milk production (mil. lb.)	144,239	148,314	148,525	7/ 13,268	7/ 12,347	7/ 12,671	7/ 12,132	7/ 13,155	7/ 12,878	7/ 13,342	
Stock, beginning											
Total (mil. lb.)	8,379	9,036	13,359	18,426	15,886	15,841	16,731	18,392	18,438	19,455	
Commercial (mil. lb.)	4,256	4,120	5,148	6,090	4,257	4,461	4,938	5,063	4,926	4,955	
Government (mil. lb.)	4,122	4,916	8,213	12,336	11,629	11,379	11,795	13,329	13,512	14,500	
Imports, total (mil. lb.)	2,499	2,690	2,819	238	287	160	142	178	211	—	
Commercial disappearance (mil. lb.)	135,433	138,988	139,384	11,844	11,510	10,038	10,593	12,026	11,842	—	
Butter											
Production (mil. lb.)	1,295.4	1,302.2	1,336.3	124.8	129.4	156.0	132.0	129.9	119.7	118.2	
Stocks, beginning (mil. lb.)	214.7	256.2	418.1	620.5	543.0	639.4	568.6	630.3	655.7	701.7	
Commercial disappearance (mil. lb.)	878.0	915.2	903.0	64.0	89.8	51.4	67.4	78.7	72.9	—	
American cheese											
Production (mil. lb.)	2,674.1	2,894.2	2,804.9	256.1	247.7	245.5	231.3	246.4	244.9	261.8	
Stocks, beginning (mil. lb.)	293.0	236.2	347.4	405.1	320.3	318.7	340.4	349.8	335.6	334.7	
Commercial disappearance (mil. lb.)	2,683.1	2,784.4	2,792.7	247.8	247.7	217.6	221.4	261.2	244.3	—	
Other cheese											
Production (mil. lb.)	2,941.3	3,167.0	3,285.9	276.1	286.0	268.5	265.8	296.3	289.8	289.1	
Stocks, beginning (mil. lb.)	104.7	93.2	110.6	106.4	89.8	97.5	100.0	97.9	113.5	115.0	
Commercial disappearance (mil. lb.)	3,208.9	3,426.4	3,574.0	303.7	310.1	279.1	282.8	298.1	309.3	—	
Nonfat dry milk											
Production (mil. lb.)	874.7	879.2	877.5	101.4	88.0	80.2	78.1	82.8	82.2	89.2	
Stocks, beginning (mil. lb.)	53.1	49.6	161.9	287.0	225.9	214.8	190.0	153.1	62.4	66.2	
Commercial disappearance (mil. lb.)	873.0	897.6	863.8	82.7	48.3	71.6	60.9	75.7	71.0	—	
Frozen dessert											
Production (mil. gal.) 5/	1,214.0	1,174.6	1,196.1	114.6	76.0	83.3	87.8	108.6	111.7	118.6	
	Annual			1990		1991				1992	
	1989	1990	1991	IV	I	II	III	IV	I P	II P	
Milk production (mil. lb.)	144,239	148,319	148,525	36,301	37,425	38,633	36,255	36,212	37,958	38,987	
Milk per cow (lb.)	14,244	14,646	14,867	3,577	3,705	3,864	3,647	3,651	3,850	3,958	
No. of milk cows (1,000)	10,126	10,127	9,990	10,151	10,101	9,999	9,940	9,918	9,858	9,850	
Milk-feed price ratio 5/	1.65	1.71	1.58	1.57	1.49	1.47	1.59	1.77	1.68	1.65	
Returns over concentrate costs (\$/cwt milk)	10.18	10.39	9.00	9.03	8.25	8.05	9.25	10.45	9.60	9.50	

1/ Manufacturing grade milk. 2/ Prices paid f.o.b. Central States production area. 3/ Includes products exported through the Dairy Export Incentive Program (DEIP). 4/ Milk equivalent, fat basis. 5/ Hard ice cream, ice milk, & hard sherbet. 6/ Based on average milk price after adjustment for price support deductions. 7/ Estimated. 8/ Less than 50,000 pounds. 9/ Entire period not available. Average of weeks reported. P = preliminary. — = not available.

Information contact: LaVerne T. Williams (202) 219-0770.

Table 15.—Wool

	Annual			1991				1992	
	1989	1990	1991	I	II	III	IV	I P	II P
U.S. wool price, (cts./lb.) 1/	370	256	199	187	200	217	182	209	222
Imported wool price, (cts./lb.) 2/	354	287	187	235	199	194	222	250	233
U.S. mill consumption, scoured									
Apparel wool (1,000 lb.)	120,534	120,622	143,519	31,582	37,111	34,578	33,916	36,693	—
Carpet wool (1,000 lb.)	14,122	12,124	14,363	3,085	3,118	4,561	3,588	4,598	—

1/ Wool price delivered at U.S. mills, clean basis. Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" & up. 2/ Wool price, Charleston, SC warehouse, clean basis. Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10.0 cents. — = not available.

Information contact: John Lawler (202) 219-0840.

Table 16.—Meat Animals

	Annual			1991		1992				
	1989	1990	1991	May	Dec	Jan	Feb	Mar	Apr	May
Cattle on feed (7 States)										
Number on feed (1,000 head) 1/	8,045	8,378	8,992	8,507	8,477	8,397	8,203	8,155	8,008	7,818
Placed on feed (1,000 head)	20,834	21,030	19,708	1,772	1,458	1,585	1,492	1,506	1,425	1,724
Marketings (1,000 head)	19,422	19,198	19,088	1,651	1,443	1,680	1,420	1,538	1,490	1,594
Other disappearance (1,000 head)	1,079	1,218	1,230	141	93	99	120	117	125	122
Beef steer-corn price ratio.										
Omaha 2/	30.3	32.8	31.6	32.7	29.7	29.9	31.0	30.4	31.6	30.6
Hog-corn price ratio, Omaha 2/	18.4	23.1	21.1	22.9	18.8	15.7	18.7	15.5	17.2	18.7
Market prices (\$/cwt)										
Slaughter cattle										
Choice steers, Omaha 1,000-1,100 lb.	72.52	77.40	73.83	78.28	68.84	71.20	75.71	78.58	76.93	76.31
Choice steers, Neb. Direct, 1,100-1,300 lb.	73.86	78.58	74.28	78.29	69.07	72.55	76.75	78.02	77.81	76.18
Boning utility cows, Sioux Falls	48.98	53.60	50.31	53.40	47.22	43.53	45.25	45.94	44.92	45.83
Feeder cattle										
Medium no. 1, Oklahoma City 600-700 lb.	86.68	92.15	92.74	97.06	83.08	82.41	83.95	84.80	84.87	84.99
Slaughter hogs										
Barrows & gilts, 6-markets	44.03	54.45	48.88	54.47	38.55	36.91	40.31	38.82	41.56	45.58
Feeder pigs										
S. Mo. 40-50 lb. (per head)	33.63	51.46	39.84	52.98	28.17	27.18	36.72	37.67	37.87	32.10
Slaughter sheep & lambs										
Lambs, Choice, San Angelo	67.32	55.54	52.73	57.70	54.92	58.81	57.88	67.20	74.63	87.26
Ewes, Good, San Angelo	38.58	35.21	31.98	29.90	32.92	38.88	40.88	42.60	35.00	31.83
Feeder lambs										
Choice, San Angelo	79.85	82.95	53.27	54.98	54.75	62.00	66.00	68.75	70.56	64.63
Wholesale meat prices, Midwest										
Boxed beef cut-out value	114.78	123.21	118.31	123.76	111.18	114.38	119.65	119.14	118.68	119.18
Canner & cutter cow beef	94.43	99.96	99.44	103.31	83.02	92.87	95.60	98.49	94.18	95.31
Pork loins, 14-18 lb. 3/	101.09	117.52	108.39	120.48	90.19	96.89	99.13	94.10	98.65	108.94
Pork bellies, 12-14 lb.	34.14	53.80	47.79	57.50	28.79	28.05	29.44	28.01	26.93	34.09
Hams, skinned, 14-17 lb.	69.39	87.70	81.80	—	84.00	—	—	—	—	—
All fresh beef retail price 4/	238.97	254.99	262.12	265.87	261.66	257.55	257.08	250.34	260.32	259.30
Commercial slaughter (1,000 head) 5/										
Cattle	33,918	33,241	32,690	2,851	2,562	2,927	2,439	2,666	2,587	2,745
Steers	16,539	16,587	16,732	1,481	1,299	1,450	1,255	1,369	1,365	1,473
Heifers	10,408	10,090	9,719	850	700	877	690	759	713	772
Cows	6,316	5,920	5,623	454	519	551	449	486	458	445
Bulls & stags	657	844	814	56	44	49	45	52	51	55
Calves	2,172	1,789	1,436	105	134	131	113	122	111	106
Sheep & lambs	5,468	5,654	5,722	461	480	484	438	497	528	388
Hogs	88,691	85,136	88,168	7,129	7,925	8,343	7,330	8,121	7,792	7,061
Commercial production (mil. lb.)										
Beef	22,974	22,834	22,800	1,947	1,782	2,039	1,707	1,849	1,786	1,899
Veal	344	316	296	23	27	28	25	27	25	25
Lamb & mutton	341	358	358	30	31	31	28	32	33	26
Pork	15,759	15,300	15,948	1,291	1,444	1,524	1,329	1,467	1,414	1,287

	Annual			1991				1992		
	1989	1990	1991	I	II	III	IV	I	II	III
Cattle on feed (13 States)										
Number on feed (1,000 head) 1/	9,688	9,943	10,827	10,827	10,739	9,461	8,620	10,135	9,703	—
Placed on feed (1,000 head)	24,489	24,803	23,208	5,702	5,008	5,414	7,086	5,393	—	—
Marketings (1,000 head)	22,940	22,526	22,383	5,328	5,820	5,973	5,262	5,421	*5,670	—
Other disappearance (1,000 head)	1,274	1,393	1,517	482	484	282	309	404	—	—
Hogs & pigs (10 States) 6/										
Inventory (1,000 head) 1/	43,210	42,200	42,900	42,900	41,990	44,520	48,900	45,735	44,770	47,225
Breeding (1,000 head) 1/	5,335	5,275	5,257	5,257	5,450	5,720	5,675	5,610	5,550	5,840
Market (1,000 head) 1/	37,875	36,925	37,643	37,643	36,540	38,800	41,225	40,125	39,220	41,385
Farrowings (1,000 head)	9,203	8,960	9,479	2,129	2,586	2,441	2,348	2,289	2,655	*2,482
Pig crop (1,000 head)	71,807	70,589	75,035	16,770	20,632	19,278	18,551	18,475	21,504	—

1/ Beginning of period. 2/ Bushels of corn equal in value to 100 pounds live weight. 3/ Prior to 1984, 8-14 lb.; 1984 & 1985, 14-17 lb.; beginning 1986, 14-18 lb. 4/ New series estimating the composite price of all beef grades & ground beef sold by retail stores. This new series is in addition to, but does not replace, the series for the retail price of Choice beef that appears in table 8. 5/ Classes estimated. 6/ Quarters are Dec. of preceding year-Feb. (I), Mar.-May (II), June-Aug. (III), & Sept.-Nov. (IV). May not add to NASS totals due to rounding. — = not available. * Intentions.

Information contact: Polly Cochran (202) 219-0767.

Crops & Products

Table 17.—Supply & Utilization^{1,2}

	Area											
	Set aside 3/	Planted	Harves- ted	Yield	Produce- tion	Total supply 4/	Feed and resid- ual	Other dome- stic use	Ex- ports	Total use	Ending stocks	Farm price 5/
		Mil. acres		Bu./acre								\$/bu.
Wheat												
1987/88	23.9	65.8	55.9	37.7	2,108	3,945	280	808	1,598	2,684	1,281	2.57
1988/89	22.5	65.5	53.2	34.1	1,812	3,099	148	829	1,419	2,394	702	3.72
1989/90	9.6	76.6	62.2	32.7	2,037	2,762	143	849	1,233	2,225	536	3.72
1990/91*	7.5	77.2	69.3	39.5	2,738	3,309	500	875	1,068	2,443	866	2.61
1991/92*	15.9	69.9	57.7	34.3	1,981	2,885	259	879	1,275	2,412	472	3.00
1992/93*	7.0	**72.3	63.1	35.4	2,232	2,744	150	898	1,175	2,223	521	3.05-3.45
Rice												
		Mil. acres		Lb./acre				Mil. cwt (rough equiv.)				\$/cwt
1987/88	1.57	2.36	2.33	5,555	129.6	184.0	—	6/ 80.4	72.2	152.6	31.4	7.27
1988/89	1.09	2.93	2.90	5,614	159.9	195.1	—	8/ 82.5	85.9	168.4	26.7	6.83
1989/90	1.18	2.73	2.69	5,749	154.5	185.6	—	6/ 82.1	77.2	159.3	28.3	7.35
1990/91*	1.04	2.90	2.82	5,529	156.1	187.2	—	6/ 91.7	70.9	182.6	24.8	6.70
1991/92*	0.9	2.86	2.75	5,617	164.5	184.5	—	6/ 92.8	61.0	153.8	30.7	7.50-7.55
1992/93*	0.4	**3.03	**2.97	—	166.0	202.7	—	6/ 94.3	74.0	188.3	34.4	6.25-7.26
Corn												
		Mil. acres		Bu./acre				Mil. bu.				\$/bu.
1987/88	23.1	68.2	59.6	119.8	7,131	12,016	4,798	1,243	1,716	7,757	4,259	1.94
1988/89	20.5	67.7	58.3	84.6	4,929	9,191	3,941	1,293	2,026	7,260	1,930	2.54
1989/90	10.8	72.2	64.7	116.3	7,525	9,458	4,389	1,356	2,388	8,113	1,344	2.36
1990/91*	10.7	74.2	67.0	118.5	7,934	9,282	4,669	1,387	1,725	7,761	1,521	2.28
1991/92*	7.4	78.0	68.8	108.6	7,474	9,016	4,950	1,445	1,550	7,945	1,071	2.35-2.40
1992/93*	6.3	**79.3	**72.2	—	8,450	9,531	5,000	1,465	1,550	8,016	1,516	2.00-2.40
Sorghum												
		Mil. acres		Bu./acre				Mil. bu.				\$/bu.
1987/88	4.1	11.8	10.5	69.4	731	1,474	555	25	232	812	683	1.70
1988/89	3.9	10.3	9.0	63.8	577	1,239	466	22	312	800	440	2.27
1989/90	3.3	12.6	11.1	55.4	615	1,055	518	16	303	835	220	2.10
1990/91*	3.3	10.5	9.1	63.1	573	793	410	9	232	651	143	2.12
1991/92*	2.5	11.0	9.8	59.0	579	722	345	9	275	629	93	2.25-2.30
1992/93*	1.9	**12.4	**11.2	—	730	823	435	10	260	695	128	1.90-2.30
Barley												
		Mil. acres		Bu./acre				Mil. bu.				\$/bu.
1987/88	2.9	10.9	10.0	52.4	521	869	253	174	121	548	321	1.81
1988/89	2.8	9.8	7.6	38.0	290	622	171	175	79	425	196	2.80
1989/90	2.3	9.1	8.3	48.6	404	614	193	175	84	453	181	2.42
1990/91*	2.9	8.2	7.5	56.1	422	596	205	176	81	461	135	2.14
1991/92*	2.2	8.9	8.4	55.2	464	625	224	171	100	495	130	2.10
1992/93*	2.1	**7.8	**7.3	50.9	371	521	170	170	75	415	106	1.95-2.35
Oats												
		Mil. acres		Bu./acre				Mil. bu.				\$/bu.
1987/88	0.8	17.9	6.9	54.3	374	552	358	81	1	440	112	1.56
1988/89	0.3	13.9	5.5	39.3	218	393	194	100	1	294	98	2.61
1989/90	0.4	12.1	6.9	54.3	374	538	266	115	1	381	157	1.49
1990/91*	0.2	10.4	5.9	60.1	358	578	286	120	1	407	171	1.14
1991/92*	0.6	8.7	4.8	50.6	243	494	240	125	2	387	127	1.20
1992/93*	0.7	**8.0	4.8	53.5	256	448	210	130	1	341	108	1.15-1.55
Soybeans												
		Mil. acres		Bu./acre				Mil. bu.				\$/bu.
1987/88	0	58.2	57.2	33.9	1,938	2,375	7/ 97	1,174	802	2,073	302	5.88
1988/89	0	58.8	57.4	27.0	1,549	1,855	7/ 88	1,058	527	1,673	182	7.42
1989/90	0	60.8	59.5	32.3	1,924	2,109	7/ 101	1,146	823	1,870	239	5.69
1990/91*	0	57.8	56.5	34.0	1,926	2,167	7/ 94	1,187	557	1,838	329	6.74
1991/92*	0	59.1	58.0	34.3	1,986	2,320	7/ 95	1,235	680	2,010	310	5.60
1992/93*	0	**59.0	58.0	—	1,975	2,290	7/ 95	1,235	675	2,005	285	5.00-6.20
Soybean oil												
								Mil. lbs.				¢/Cts./lb.
1987/88	—	—	—	—	12,974	14,895	—	10,930	1,873	12,803	2,092	22.67
1988/89	—	—	—	—	11,737	13,967	—	10,591	1,661	12,252	1,715	21.10
1989/90	—	—	—	—	13,004	14,741	—	12,083	1,353	13,436	1,305	22.30
1990/91*	—	—	—	—	13,408	14,730	—	12,164	780	12,944	1,786	21.00
1991/92*	—	—	—	—	14,130	15,925	—	12,200	1,425	13,625	2,300	19.00
1992/93*	—	—	—	—	14,060	16,385	—	12,450	1,450	13,900	2,485	17.0-21.0
Soybean meal												
								1,000 tons				¢/\$/ton
1987/88	—	—	—	—	28,060	28,300	—	21,293	6,854	28,147	153	222
1988/89	—	—	—	—	24,943	25,100	—	19,657	5,270	24,927	173	233
1989/90	—	—	—	—	27,719	27,800	—	22,263	5,319	27,582	318	174
1990/91*	—	—	—	—	28,325	28,566	—	22,912	5,489	28,381	285	170
1991/92*	—	—	—	—	29,330	29,670	—	23,070	6,300	29,370	300	175
1992/93*	—	—	—	—	29,325	29,650	—	23,200	6,150	29,350	300	180-190

See footnotes at end of table.

Table 17.—Supply & Utilization, continued

	Area		Yield	Production	Total supply 4/	Feed and residual	Other domestic use	Exports	Total use	Ending Stocks	Farm price 5/	
	Set Aside 3/	Planted										Harvested
	Mil. acres		Lb./acre		Mil. bales						Cts./lb.	
Cotton 10/												
1987/88	4.0	10.4	10.0	706	14.8	19.8	—	7.6	6.6	14.2	5.8	54.30
1988/89	2.2	12.5	11.9	619	15.4	21.2	—	7.8	6.1	13.9	7.1	56.60
1989/90	3.5	10.6	9.5	614	12.2	19.3	—	8.8	7.7	16.5	3.0	60.20
1990/91 "	2.0	12.3	11.7	634	15.5	18.5	—	8.7	7.8	16.5	2.3	68.20
1991/92 "	1.2	14.1	13.0	652	17.6	20.0	—	9.5	6.8	16.3	3.8	11/ 58.30
1992/93 "	1.6	13.6	—	—	16.0	19.8	—	9.7	6.7	16.4	3.5	

" July 9, 1992 Supply & Demand Estimates. 1/ Marketing year beginning June 1 for wheat, barley, & oats, August 1 for cotton & rice, September 1 for soybeans, corn, & sorghum, October 1 for soybean meal & soybean oil. 2/ Conversion factors. Hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 88.8944 bushels of oats, 22.046 cwt of rice, & 4.59 480-pound bales of cotton. 3/ Includes diversion, acreage reduction, 50-92, & 0-92 programs. 0/92 & 50/92 set-aside includes idled acreage & acreage planted to minor oilseeds. Data for 1992/93 are preliminary. 4/ Includes imports. 5/ Marketing-year weighted average price received by farmers. Does not include an allowance for loans outstanding & Government purchases. 6/ Residual included in domestic use. 7/ Includes seed. 8/ Simple average of crude soybean oil, Decatur. 9/ Simple average of 44 percent, Decatur. 10/ Upland & extra long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply & use estimates & changes in ending stocks. 11/ Weighted average for August-March; not a projection for the marketing year. — = not available or not applicable. " " June acreage export.

Information contact: Commodity Economics Division, Crops Branch (202) 219-0840.

Table 18.—Cash Prices, Selected U.S. Commodities

	Marketing year 1/				1991	1992				
	1987/88	1988/89	1989/90	1990/91	May	Jan	Feb	Mar	Apr	May
Wheat, No. 1 HRW, Kansas City (\$/bu.) 2/	2.96	4.17	4.22	2.94	3.04	4.66	4.51	4.33	4.02	3.90
Wheat, DNS, Minneapolis (\$/bu.) 3/	3.15	4.36	4.16	3.06	3.10	4.36	4.56	4.36	4.28	4.44
Rice, S.W. La. (\$/cwt) 4/	19.25	14.85	15.55	15.25	16.50	17.30	17.30	16.60	16.45	15.70
Corn, no. 2 yellow, 30 day, Chicago (\$/bu.)	2.14	2.68	2.54	2.40	2.50	2.59	2.67	2.72	2.58	2.60
Sorghum, no. 2 yellow, Kansas City (\$/cwt)	3.40	4.17	4.21	4.08	4.13	4.44	4.62	4.78	4.41	4.54
Barley, feed, Duluth (\$/bu.) 5/	1.78	2.32	2.20	2.13	2.13	2.20	2.28	2.30	2.35	2.38
Barley, malting, Minneapolis (\$/bu.)	2.04	4.11	3.28	2.42	2.41	2.51	2.51	2.50	2.50	NQ*
U.S. price, SLM, 1-1/16 in. (cts./lb.) 6/	63.1	57.7	69.8	74.8	83.9	51.5	50.8	52.0	55.0	55.5
Northern Europe prices index (cts./lb.) 7/	72.3	66.4	82.3	82.9	84.4	59.3	56.3	55.3	58.2	61.0
U.S. M 1-3/32 in. (cts./lb.) 8/	76.3	69.2	83.6	86.2	99.3	61.5	60.3	59.8	62.7	63.6
Soybeans, no. 1 yellow, 30 day, Chicago (\$/bu.)	6.87	7.41	5.86	5.76	5.71	5.66	5.73	5.86	5.73	5.99
Soybean oil, crude, Decatur (cts./lb.)	22.70	21.10	22.30	21.00	20.15	18.77	18.88	19.74	19.00	20.23
Soybean meal, 44% protein, Decatur (\$/ton)	221.90	233.50	173.75	169.78	184.30	172.70	174.30	174.20	174.80	172.40

1/ Beginning June 1 for wheat & barley; Aug. 1 for rice & cotton; Sept. 1 for corn, sorghum & soybeans; Oct. 1 for soybean meal & oil. 2/ Ordinary protein. 3/ 14% protein. 4/ Long grain, milled basis. 5/ Beginning Mar. 1987 reporting point changed from Minneapolis to Duluth. 6/ Average spot market. 7/ Liverpool Cotlook (A) index; average of five lowest prices of 12 selected growths. 8/ Memphis territory growths. * No quote.

Information contacts: Wheat & feed grains, Joy Harwood (202) 219-0840; Cotton, Lee Meyer (202) 219-0840; Soybeans, Brenda Toland, (202) 216-0840.

Table 19.—Farm Programs, Price Supports, Participation & Payment Rates

	Target price	Basic loan rate	Findley or announced loan rate 1/	Payment rates			Effective base acres 2/	Program 3/	Participation rate 4/
				Total deficiency	Paid land diversion				
					Mandatory	Optional			
				\$/bu.			Mill. acres	Percent of base	Percent of base
Wheat									
1987/88	4.38	2.85	2.28	1.61	---	---	87.6	27.5/0/0	88
1988/89	4.23	2.78	2.21	0.69	---	---	84.8	27.5/0/0	86
1989/90	4.10	2.58	2.00	0.32	---	---	82.3	10/0/0	78
1990/91 6/	4.00	2.44	1.95	1.28	---	---	80.5	7/ 5/0/0	83
1991/92	4.00	2.52	2.04	*1.35	---	---	79.2	15/0/0	85
1992/93	4.00	2.58	2.21	**0.65	---	---	79.0	5/0/0	82
1993/94	4.00	2.86	2.45	---	---	---	---	0/0/0	---
Rice									
1986/87 5/	11.90	7.20	8/ 3.94	4.70	---	---	4.2	35/0/0	94
1987/88	11.66	6.84	8/ 6.79	4.82	---	---	4.2	35/0/0	96
1988/89	11.15	6.63	8/ 6.21	4.31	---	---	4.2	25/0/0	94
1989/90	10.80	6.50	8/ 5.71	3.56	---	---	4.2	25/0/0	94
1990/91 6/	10.71	6.50	8/ 5.08	4.21	---	---	4.2	20/0/0	94
1991/92	10.71	6.50	---	3.07	---	---	4.2	5/0/0	95
1992/93	10.71	6.50	---	**3.51	---	---	4.1	0/0/0	93
Corn									
1986/87 5/	3.03	2.40	1.92	1.11	0.73	---	81.7	17.5/2.5/0	86
1987/88	3.03	2.28	1.82	1.09	---	2.00	81.5	20/0/15	91
1988/89	2.93	2.21	1.77	0.36	---	1.75	82.9	20/0/10	87
1989/90	2.84	2.06	1.65	0.68	---	---	82.7	10/0/0	80
1990/91 6/	2.75	1.96	1.57	0.53	---	---	82.8	10/0/0	77
1991/92	2.75	1.89	1.62	*0.41	---	---	82.7	7.5/0/0	77
1992/93	2.75	2.01	1.72	**0.48	---	---	82.2	5/0/0	75
Sorghum									
1986/87 5/	2.88	2.28	1.82	1.06	0.65	---	19.0 9/	17.5/2.5/0	74
1987/88	2.88	2.17	1.74	1.14	---	1.80	17.4	20/0/15	85
1988/89	2.78	2.10	1.68	0.48	---	1.65	16.8	20/0/10	82
1989/90	2.70	1.96	1.57	0.66	---	---	16.2	10/0/0	71
1990/91 6/	2.61	1.86	1.49	0.58	---	---	15.4	10/0/0	70
1991/92	2.61	1.80	1.54	*0.37	---	---	13.5	7.5/0/0	77
1992/93	2.61	1.91	1.63	**0.46	---	---	13.8	5/0/0	77
Barley									
1986/87 5/	2.60	1.95	1.56	0.99	0.57	---	12.4 9/	17.5/2.5/0	72
1987/88	2.60	1.88	1.49	0.79	---	1.60	12.5	20/0/15	65
1988/89	2.51	1.80	1.44	0.00	---	1.40	12.4	20/0/10	79
1989/90	2.43	1.68	1.34	0.00	---	---	12.3	10/0/0	67
1990/91 6/	2.36	1.60	1.28	0.22	---	---	11.9	10/0/0	68
1991/92	2.36	1.54	1.32	*0.62	---	---	11.5	7.5/0/0	76
1992/93	2.36	1.64	1.40	**0.35	---	---	11.1	5/0/0	74
Oats									
1986/87 5/	1.60	1.23	0.99	0.39	0.36	---	9.2 9/	17.5/2.5/0	38
1987/88	1.60	1.17	0.94	0.20	---	0.80	8.4	20/0/15	45
1988/89	1.55	1.14	0.90	0.00	---	---	7.9	5/0/0	30
1989/90	1.50	1.06	0.85	0.00	---	---	7.6	5/0/0	18
1990/91 6/	1.45	1.01	0.81	0.33	---	---	7.5	5/0/0	09
1991/92	1.45	0.97	0.83	*0.35	---	---	7.3	0/0/0	38
1992/93	1.45	1.03	0.88	**0.15	---	---	7.3	0/0/0	40
Soybeans 10/									
1986/87 5/	---	---	4.77	---	---	---	---	---	---
1987/88	---	---	4.77	---	---	---	---	---	---
1988/89	---	---	4.77	---	---	---	---	---	---
1989/90	---	---	4.53	---	---	---	---	11/ 10/25	---
1990/91 6/	---	---	4.50	---	---	---	---	11/ 0/25	---
1991/92	---	---	5.02	---	---	---	---	11/ 0/25	---
1992/93	---	---	5.02	---	---	---	---	11/ 0/25	---
Upland cotton									
1986/87 5/	81.0	55.00	12/ 44.00	26.00	---	---	15.5	25/0/0	92
1987/88	79.4	52.25	13/ 80.00	17.3	---	---	14.5	25/0/0	93
1988/89	75.9	51.80	13/ 51.89	19.4	---	---	14.5	12.5/0/0	89
1989/90	73.4	60.00	13/ 85.05	13.1	---	---	14.8	25/0/0	89
1990/91 6/	72.9	50.27	13/ 53.00	7.3	---	---	14.4	12.5/0/0	86
1991/92 14/	72.9	60.77	13/ ---	10.1	---	---	14.8	5/0/0	84
1992/93	72.9	52.35	13/ ---	**15.0	---	---	14.9	10/0/0	87

1/ There are no Findley loan rates for rice or cotton. See footnotes 8/, 12/, & 13/. 2/ National effective crop acreage base as determined by ASCS. Net of CRP. 3/ Program requirements for participating producers (mandatory acreage reduction program/mandatory paid land diversion/optional paid land diversion). Acreage idled must be devoted to a conserving use to receive program benefits. 4/ Percentage of effective base acres enrolled in acreage reduction programs. 5/ Payments & loans received in cash were reduced by 4.3 percent in 1986/87 due to Gramm-Rudman-Hollings. Budget Reconciliation Act reductions to deficiency payments rates were also in effect in that year. Data do not include these reductions. 6/ Under 1990 modified contracts, participating producers plant up to 105 percent of their wheat base acres. For every acre planted above 95 percent of base, the acreage used to compute deficiency payments was cut by 1 acre. 7/ A marketing loan has been in effect for rice since 1985/86. Loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly). However, loans cannot be repaid at less than a specified fraction of the loan rate. Data refer to annual average adjusted world prices. 8/ The sorghum, oats, & barley programs are the same as for corn except as indicated. 10/ There are no target prices, base acres, acreage reduction programs, or deficiency payment rates for soybeans. 11/ Nominal percentage of program crop base acres permitted to shift into soybeans without loss of base. 12/ A marketing loan has been in effect for cotton since 1986/87. The loan repayment rate was fixed at 80 percent of the loan rate in 1986/87 (Plan A). 13/ In 1987/88 & after, loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly; Plan B). Starting in 1991/92, loans cannot be repaid at less than 70 percent of the loan rate. Data refer to annual average adjusted world prices. 14/ A marketing certificate program was implemented on Aug. 1, 1991. — = not available.

* For wheat & feed grains, the 1991/92 rate is the regular (5-month) deficiency payment rate. For the winter wheat option, the 5-month rate is \$1.25. For upland cotton & rice, the rate is the total payment rate. ** Estimated total deficiency payment rate. Minimum guaranteed payment rate for 0/92 (wheat & feed grains) & 50/92 (rice & upland cotton) programs.

Information contact: Joy Harwood (202) 219-0840.

Table 20.—Fruit

	1983	1984	1985	1986	1987	1988	1989	1990	1991 P
Citrus 1/ Production (1,000 ton)	13,882	10,832	10,525	11,058	11,993	12,781	13,186	10,860	12,218
Per capita consumpt. (lbs.) 2/	29.5	24.0	22.6	26.0	25.8	26.4	25.4	22.4	—
Noncitrus 3/ Production (1,000 tons)	14,168	14,301	14,191	13,874	16,011	15,893	16,385	15,656	15,821
Per capita consumpt. (lbs.) 2/	63.6	67.7	66.7	69.8	75.4	72.7	74.3	69.6	—
	1991				1992				
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
F.o.b. shipping point prices									
Apples (\$/canton) 4/	19.20	14.00	14.00	14.00	13.73	21.13	16.00	16.00	15.13
Pears (\$/box) 5/	13.00	13.00	13.00	13.00	12.50	21.25	13.50	13.68	18.13
Grower prices									
Oranges (\$/box) 6/	21.97	11.09	5.19	6.31	5.93	6.90	6.04	6.59	6.73
Grapefruit (\$/box) 6/	1.38	6.24	6.16	5.95	5.92	5.68	7.11	7.65	3.98
Stocks, ending									
Fresh apples (mil. lbs.)	2,723.6	5,133.7	4,461.5	3,703.6	2,952.9	2,315.4	1,623.1	1,073.3	672.9
Fresh pears (mil. lbs.)	456.3	420.8	335.4	217.2	181.5	152.7	93.6	57.0	18.7
Frozen fruits (mil. lbs.)	871.8	1,027.9	983.4	892.4	803.8	741.8	634.1	582.0	612.8
Frozen orange juice (mil. lbs.)	765.2	584.2	617.3	952.7	1,130.7	1,149.7	1,102.9	1,269.3	1,303.7

1/ 1991 indicated 1990/91 season. 2/ Fresh per capita consumption. 3/ Calendar year. 4/ Red delicious, Washington, extra fancy, carton tray pack, 125's. 5/ D'Anjou, Washington, standard box wrapped, U.S. no. 1, 135's. 6/ U.S. equivalent on-tree returns. P = preliminary. — = not available.

Information contact: Wynne Napper (202) 219-0884.

Table 21.—Vegetables

	Calendar year									
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Production										
Total vegetables (1,000 cwt)	430,795	403,509	456,334	453,030	446,829	478,381	468,779	542,437	581,704	584,300
Fresh (1,000 cwt) 1/ 3/	193,451	185,782	201,817	203,549	203,165	220,539	228,397	239,281	239,104	229,007
Processed (tons) 2/ 3/	11,867,170	10,886,350	12,725,880	12,474,040	12,273,200	12,892,100	12,019,110	15,157,790	16,130,020	16,784,670
Mushrooms (1,000 lbs.) 4/	490,826	561,531	595,681	587,956	614,393	631,819	667,759	714,992	749,488	—
Potatoes (1,000 cwt)	355,131	333,726	362,039	406,609	361,743	389,320	356,438	370,444	402,110	418,229
Sweetpotatoes (1,000 cwt)	14,833	12,083	12,802	14,573	12,368	11,611	10,945	11,358	12,594	11,203
Dry edible beans (1,000 cwt)	25,563	15,520	21,070	22,298	22,960	26,031	19,253	23,729	32,379	32,963
	1991				1992					
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Shipments										
Fresh (1,000 cwt) 5/	17,211	15,711	20,930	17,354	16,583	22,759	17,429	17,527	26,855	28,050
Potatoes (1,000 cwt)	8,796	9,541	13,069	12,277	11,386	14,747	12,213	14,325	22,783	14,643
Sweetpotatoes (1,000 cwt)	93	220	403	820	433	301	295	247	387	176

1/ Includes fresh production of asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, & tomatoes. 2/ Includes processing production of snap beans, sweet corn, green peas, tomatoes, cucumbers (for pickles), asparagus, broccoli, carrots, & cauliflower. 3/ Asparagus & cucumber estimates were not available for 1982 & 1983. 4/ Fresh & processing agaricus mushrooms only. Excludes specialty varieties. Crop year July 1 - June 30. 5/ Includes snap beans, broccoli, cabbage, carrots, cauliflower, celery, sweet corn, cucumbers, eggplant, lettuce, onions, bell peppers, squash, tomatoes, cantaloupes, honeydews, & watermelons.

Information contacts: Gary Lucier or Cathy Greene (202) 219-0884.

Table 22.—Other Commodities

	Annual					1991				1992
	1987	1988	1989	1990	1991	Jan-Mar	Apr-June	July-Sept	Oct-Dec	Jan-Mar
Sugar										
Production 1/	7,309	7,087	6,841	6,335	7,139	2,206	625	647	3,661	—
Deliveries 1/	8,167	8,188	8,340	8,661	8,668	2,019	2,103	2,340	2,236	—
Stocks, ending 1/	3,195	3,132	2,946	2,729	2,923	3,630	2,487	1,513	2,923	—
Coffee										
Composite green price N.Y. (cts./lb.)	109.14	119.59	95.17	76.93	70.09	74.94	72.13	88.18	84.84	59.19
Imports, green bean equiv. (mil. lbs.) 2/	2,638	2,072	2,630	2,714	2,572	748	583	562	699	840
	Annual				1990	1991				
	1988	1989	1990	Nov	June	July	Aug	Sept	Oct	Nov
Tobacco										
Prices at auctions 3/										
Flue-cured (\$/lb.)	1.81	1.67	1.87	1.64	—	—	1.66	1.77	1.78	1.69
Burley (\$/lb.)	1.81	1.87	1.75	—	—	—	—	—	—	—
Domestic consumption 4/										
Cigarettes (bil.)	562.5	540.1	523.1	45.8	45.8	44.0	42.3	43.4	40.5	57.1
Large cigars (mil.)	2,531	2,467.6	2,343.4	209.6	218.6	170.2	205.8	183.4	193.1	191

1/ 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2/ Net imports of green & processed coffee. 3/ Crop year July-June for flue-cured, Oct-Sept for burley. 4/ Taxable removals. — = not available.

Information contacts: sugar, Peter Buzzanell (202) 219-0886, coffee, Fred Gray (202) 219-0886, tobacco, Verner Gries (202) 219-0890.

World Agriculture

Table 23.—World Supply & Utilization of Major Crops, Livestock & Products

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92 P	1992/93 F
Million units							
Wheat							
Area (hectares)	228.2	219.9	217.6	225.9	231.9	221.2	224.2
Production (metric tons)	524.8	496.4	495.7	533.3	589.0	541.3	543.8
Exports (metric tons) 1/	90.7	107.6	97.2	97.0	94.3	107.2	101.7
Consumption (metric tons) 2/	516.6	525.6	528.2	530.4	567.2	553.0	548.1
Ending stocks (metric tons) 3/	177.8	148.4	118.0	120.9	142.7	131.1	128.7
Coarse grains							
Area (hectares)	335.1	323.0	323.3	320.9	314.2	319.4	
Production (metric tons)	822.8	784.6	721.3	792.8	820.3	798.4	823.8
Exports (metric tons) 1/	83.7	84.0	96.2	102.1	87.9	91.9	86.9
Consumption (metric tons) 2/	796.1	805.6	785.8	818.7	807.7	805.7	813.0
Ending stocks (metric tons) 3/	234.7	213.6	149.1	123.2	138.0	128.7	139.5
Rice, milled							
Area (hectares)	145.3	141.9	145.6	147.0	147.1	145.9	
Production (metric tons)	318.2	318.1	331.8	344.4	352.1	347.0	351.4
Exports (metric tons) 4/	12.9	11.9	15.1	12.0	12.5	12.3	13.3
Consumption (metric tons) 2/	322.2	321.5	329.5	337.7	347.7	352.6	354.3
Ending stocks (metric tons) 3/	51.4	48.0	48.3	55.0	59.4	63.8	50.9
Total grains							
Area (hectares)	708.8	684.8	686.5	693.8	693.2	686.5	224.2
Production (metric tons)	1,865.6	1,597.1	1,548.8	1,670.5	1,781.4	1,686.7	1,719.0
Exports (metric tons) 1/	187.3	203.5	208.5	211.1	194.7	212.4	201.9
Consumption (metric tons) 2/	1,634.9	1,652.7	1,641.5	1,686.8	1,722.6	1,711.3	1,713.4
Ending stocks (metric tons) 3/	463.7	408.0	315.4	299.1	338.1	313.6	319.1
Oilseeds							
Crush (metric tons)	181.8	188.4	184.2	171.7	177.2	182.5	184.6
Production (metric tons)	194.9	210.5	201.8	212.4	215.9	221.3	222.8
Exports (metric tons)	37.7	39.5	31.5	35.5	33.0	35.5	35.8
Ending stocks (metric tons)	23.3	24.0	22.0	23.3	22.8	22.9	21.4
Meats							
Production (metric tons)	110.7	115.4	111.0	116.9	119.8	123.3	124.2
Exports (metric tons)	36.7	35.8	37.4	38.5	39.4	39.6	39.5
Oils							
Production (metric tons)	50.4	53.3	53.3	57.1	58.3	60.0	60.9
Exports (metric tons)	16.9	17.5	18.1	19.8	20.2	20.1	20.0
Cotton							
Area (hectares)	29.3	30.8	33.7	31.5	33.0	34.8	34.1
Production (bales)	70.6	80.9	84.4	79.8	87.0	95.2	92.8
Exports (bales)	25.9	23.1	25.6	23.9	23.0	22.8	23.1
Consumption (bales)	82.6	84.1	85.2	86.6	85.7	85.6	88.5
Ending stocks (bales)	35.9	32.9	32.2	26.5	28.8	38.3	42.0
	1986	1987	1988	1989	1990	1991 P	1992 F
Million							
Red meat							
Production (metric tons)	109.8	112.8	116.5	117.9	120.0	119.1	118.8
Consumption (metric tons)	108.6	110.8	114.5	116.5	117.8	117.1	117.4
Exports (metric tons) 1/	6.6	6.7	7.1	7.2	7.3	7.7	7.7
Poultry 5/							
Production (metric tons)	30.1	31.3	32.9	34.2	36.0	37.5	39.0
Consumption (metric tons)	29.7	30.8	32.5	33.6	35.5	36.9	38.6
Exports (metric tons) 1/	1.3	1.5	1.7	1.6	2.1	2.2	2.3
Dairy							
Milk production (metric tons)	425.9	425.7	429.0	434.9	442.0	429.2	424.6

1/ Excludes intra-EC trade. 2/ Where stocks data not available (excluding USSR), consumption includes stock changes. 3/ Stocks data are based on differing marketing years & do not represent levels at a given date. Data not available for all countries; includes estimated change in USSR grain stocks but not absolute level. 4/ Calendar year data. 1987 data correspond with 1986/87, etc. 5/ Poultry excludes the Peoples Republic of China before 1988. P = preliminary. F = forecast

Information contacts: Crops, Carol Whitton (202) 219-0824; red meat & poultry, Linda Bailey (202) 219-1285; dairy, Sara Short (202) 219-0770.

U.S. Agricultural Trade

Table 24.—Prices of Principal U.S. Agricultural Trade Products

	Annual			1991		1992				
	1989	1990	1991	May	Dec	Jan	Feb	Mar	Apr	May
Export commodities										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	4.85	3.72	3.52	3.35	4.40	4.85	4.83	4.83	4.36	4.09
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	2.85	2.78	2.75	2.70	2.73	2.79	2.91	2.97	2.79	2.80
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	2.70	2.85	2.89	2.82	2.78	2.88	2.98	3.06	2.79	2.75
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	7.06	8.24	8.05	8.09	5.91	8.00	8.06	8.19	8.05	6.28
Soybean oil, Decatur (cts./lb.)	20.21	22.75	20.14	20.29	18.67	18.81	18.85	19.58	18.84	20.08
Soybean meal, Decatur (\$/ton)	216.59	189.37	172.90	171.14	171.38	172.43	173.88	174.89	174.43	183.40
Cotton, 8—market avg. spot (cts./lb.)	83.79	71.25	89.89	83.94	53.89	51.53	50.78	52.01	54.97	55.45
Tobacco, avg. price at auction (cts./lb.)	181.74	168.08	173.53	171.12	179.98	175.85	174.82	185.50	182.04	182.04
Rice, f.o.b. mill, Houston (\$/cwt)	15.68	15.52	18.48	18.00	17.50	17.50	17.50	17.50	17.50	17.25
Inedible tallow, Chicago (cts./lb.)	14.71	13.54	13.28	12.25	12.50	12.25	12.63	12.68	13.25	13.75
Import commodities										
Coffee, N.Y. spot (\$/lb.)	1.04	0.81	0.71	0.76	0.57	0.67	0.51	0.53	0.49	0.47
Rubber, N.Y. spot (cts./lb.)	50.65	46.28	45.73	45.18	44.15	43.11	43.95	44.51	45.88	46.41
Cocoa beans, N.Y. (\$/lb.)	0.55	0.55	0.52	0.47	0.59	0.56	0.51	0.49	0.44	0.42

Information contact: Mary Teymourian (202) 219-0824.

Table 25.—Indexes of Real Trade-Weighted Dollar Exchange Rates ^{1/}

	1991						1992					
	July	Aug	Sept	Oct	Nov	Dec	Jan P	Feb P	Mar P	Apr P	May P	June P
	1985 = 100											
Total U.S. trade ^{2/}	69.1	68.2	66.6	66.0	63.9	62.4	62.4	63.7	65.6	65.1	64.0	64.0
Agricultural trade												
U.S. markets	80.5	79.8	78.4	78.3	77.1	76.3	75.5	76.2	78.2	78.0	77.0	77.0
U.S. competitors	77.6	78.9	75.8	77.0	78.4	78.2	76.1	78.8	78.8	78.0	75.3	75.3
Wheat												
U.S. markets	98.9	98.1	96.3	97.4	96.8	96.7	95.4	95.9	100.4	100.4	100.0	100.7
U.S. competitors	71.9	71.1	70.3	69.9	69.4	69.8	70.1	71.2	71.6	71.0	71.2	71.5
Soybeans												
U.S. markets	69.7	68.8	67.4	66.7	65.0	63.8	63.2	63.8	65.9	65.7	64.4	64.4
U.S. competitors	55.6	54.6	54.1	56.0	56.4	57.7	57.4	57.9	58.0	57.0	56.1	56.1
Corn												
U.S. markets	74.1	73.7	72.3	71.3	70.2	69.5	68.4	69.2	70.7	70.6	69.2	69.0
U.S. competitors	65.1	64.3	62.8	62.5	61.4	60.4	60.0	60.6	61.1	60.3	59.7	59.5
Cotton												
U.S. markets	75.5	75.1	74.1	73.6	72.7	72.2	71.7	72.4	74.1	73.9	73.1	73.2
U.S. competitors	88.8	88.4	86.8	86.9	87.5	86.9	85.8	85.6	85.4	84.8	84.4	84.2

^{1/} Real indexes adjust nominal exchange rates for differences in rates of inflation, to avoid the distortion caused by high-inflation countries. A higher value means the dollar has appreciated. See the October 1988 issue of *Agricultural Outlook* for a discussion of the calculations and the weights used. ^{2/} Federal Reserve Board Index of trade-weighted value of the U.S. dollar against 10 major currencies. Weights are based on relative importance in world financial markets. P = preliminary.

Information contact: Tim Baxter, David Stallings (202) 219-0718.

Table 26.—Trade Balance

	Fiscal year ^{1/}								Apr
	1985	1986	1987	1988	1989	1990	1991	1992 F	1992
	\$ million								
Exports									
Agricultural	31,201	26,312	27,876	35,316	39,590	40,220	37,609	41,000	3,706
Nonagricultural	179,236	179,291	202,811	258,656	301,269	326,059	356,682	—	31,625
Total ^{2/}	210,437	205,603	230,787	293,972	340,859	366,279	394,291	—	35,331
Imports									
Agricultural	19,740	20,884	20,650	21,014	21,476	22,580	22,588	23,000	2,157
Nonagricultural	313,722	342,846	367,374	409,138	441,075	458,101	463,720	—	39,823
Total ^{3/}	333,462	363,730	388,024	430,152	462,551	480,681	486,308	—	42,080
Trade balance									
Agricultural	11,461	5,428	7,226	14,302	18,114	17,660	15,021	18,000	1,549
Nonagricultural	-134,486	-163,555	-164,463	-150,482	-139,806	-132,042	-107,038	—	-8,298
Total	-123,025	-158,127	-157,237	-136,180	-121,692	-114,382	-92,017	—	-6,749

^{1/} Fiscal years begin October 1 & end September 30. Fiscal year 1991 began Oct. 1, 1990 & ended Sept. 30, 1991. ^{2/} Domestic exports including Department of Defense shipments (F.A.S. value). ^{3/} Imports for consumption (customs value). F = forecast. — = not available.

Information contact: Stephen MacDonald (202) 219-0822.

Table 27.—U.S. Agricultural Exports & Imports

	Fiscal year*			Apr	Fiscal year*			Apr
	1990	1991	1992 F	1992	1990	1991	1992 F	1992
	1,000 units				\$ million			
EXPORTS								
Animals, live (no.) 1/	685	1,235	—	124	361	546	—	38
Meats & preps., excl. poultry (mt)	873	937	2/ 900	89	2,457	2,774	—	253
Dairy products (mt) 1/	105	43	—	11	358	293	600	46
Poultry meats (mt)	563	628	700	59	679	737	—	67
Fats, oils, & greases (mt)	1,265	1,169	1,300	118	459	419	—	40
Hides & skins incl. furskins	—	—	—	—	1,794	1,453	—	105
Cattle hides, whole (no.) 1/	23,920	21,608	—	1,592	1,412	1,193	—	86
Mink pelts (no.) 1/	5,128	3,941	—	318	116	74	—	5
Grains & feeds (mt)	112,925	100,016	—	9,506	15,698	12,206	3/ 13,500	1,348
Wheat (mt)	28,068	26,708	34,500	3,180	4,212	2,857	4/ 4,400	431
Wheat flour (mt)	851	1,076	900	73	198	202	—	14
Rice (mt)	2,491	2,401	2,100	168	830	749	700	58
Feed grains, incl. products (mt)	69,384	52,337	48,200	5,031	8,094	5,789	5,400	610
Feeds & fodders (mt)	11,153	16,389	5/ 11,800	947	1,828	1,914	—	168
Other grain products (mt)	978	1,105	—	153	536	695	—	81
Fruits, nuts, & preps. (mt)	2,672	2,849	—	259	2,788	3,038	—	230
Fruit juices incl.	—	—	—	—	—	—	—	—
froz. (1,000 hectoliters) 1/	5,975	6,310	—	743	328	338	—	41
Vegetables & preps. (mt)	2,243	2,589	—	255	2,079	2,597	—	258
Tobacco, unmanufactured (mt)	218	239	200	28	1,359	1,533	1,500	181
Cotton, excl. linters (mt)	1,666	1,565	1,600	155	2,704	2,605	2,300	217
Seeds (mt)	558	514	—	73	573	618	700	41
Sugar, cane or beet (mt)	447	589	—	45	187	219	—	13
Oilseeds & products (mt)	23,745	21,976	—	2,283	6,099	5,607	7,200	574
Oilseeds (mt)	17,669	15,633	—	1,584	4,239	3,811	—	380
Soybeans (mt)	17,229	15,139	18,800	1,542	3,942	3,465	4,200	351
Protein meal (mt)	4,780	5,292	—	565	1,032	1,073	—	115
Vegetable oils (mt)	1,296	1,051	—	135	829	723	—	78
Essential oils (mt)	14	13	—	1	182	183	—	14
Other	91	92	—	8	2,115	2,441	—	241
Total	147,583	133,219	140,000	12,890	40,220	37,609	41,000	3,706
IMPORTS								
Animals, live (no.) 1/	2,938	3,168	—	281	1,053	1,131	1,200	125
Meats & preps., excl. poultry (mt)	1,142	1,191	—	106	2,648	3,016	—	248
Beef & veal (mt)	754	811	722	78	1,842	2,024	2,100	185
Pork (mt)	340	322	340	22	888	888	800	51
Dairy products (mt) 1/	255	231	—	17	951	807	800	61
Poultry & products 1/	—	—	—	2	129	119	—	11
Fats, oils, & greases (mt)	19	33	—	3	15	19	—	2
Hides & skins, incl. furskins 1/	—	—	—	—	162	153	—	22
Wool, unmanufactured (mt)	47	50	—	5	187	175	—	19
Grains & feeds (mt)	3,481	4,163	4,650	512	1,181	1,271	1,300	136
Fruits, nuts, & preps., excl. juices (mt)	5,331	5,648	5,660	612	2,486	2,740	—	296
Bananas & plantains (mt)	3,236	3,397	3,400	322	926	992	1,100	102
Fruit juices (1,000 hectoliters) 1/	33,933	27,948	30,000	1,907	1,002	737	—	66
Vegetables & preps. (mt)	2,243	2,180	—	218	2,264	2,185	2,200	223
Tobacco, unmanufactured (mt)	193	215	220	15	588	698	800	36
Cotton, unmanufactured (mt)	30	18	—	1	20	16	—	1
Seeds (mt)	171	169	150	40	164	173	200	34
Nursery stock & cut flowers 1/	—	—	—	—	519	538	—	17
Sugar, cane or beet (mt)	1,769	1,785	—	266	734	717	—	97
Oilseeds & products (mt)	2,016	2,077	—	184	984	959	1,100	98
Oilseeds (mt)	534	445	—	33	206	151	—	10
Protein meal (mt)	310	412	—	48	48	57	—	6
Vegetable oils (mt)	1,171	1,220	—	103	710	750	—	81
Beverages excl. fruit juices (1,000 hectoliters) 1/	13,543	12,987	—	1,151	1,867	1,858	—	168
Coffee, tea, cocoa, spices	2,202	2,025	2,250	183	3,465	3,280	—	264
Coffee, incl. products (mt)	1,290	1,116	1,250	105	1,997	1,831	1,800	145
Cocoa beans & products (mt)	698	680	790	55	1,042	1,005	1,100	78
Rubber & allied gums (mt)	840	792	890	66	712	684	700	53
Other	—	—	—	—	1,229	1,332	—	180
Total	—	—	—	—	22,560	22,588	23,000	2,157

*Fiscal years begin Oct. 1 & end Sept. 30. Fiscal year 1991 began Oct. 1, 1990 & ended Sept. 30, 1991. 1/ Not included in total volume and also other dairy products for 1989 & 1990. 2/ Forecasts for footnoted items 2/-5/ are based on slightly different groups of commodities. Fiscal 1990 exports of categories used in the 1991 forecasts were 2/ 676,000 m. tons. 3/ 16,014 million. 4/ 4,426 million i.e. includes flour. 5/ 11,065 million m. tons. 6/ Less than \$500. F = forecast. — = not available.

Information contact: Stephen MacDonald (202) 219-0822.

Table 28.—U.S. Agricultural Exports by Region

Region & country	Fiscal year*			Apr	Change from year* earlier			Apr
	1990	1991	1992 F	1992	1990	1991	1992 F	1992
	\$ million				Percent			
WESTERN EUROPE	7,309	7,312	7,600	575	4	0	4	2
European Community (EC-12)	6,815	6,778	7,100	531	4	-1	4	2
Belgium-Luxembourg	426	464	—	28	-1	9	—	37
France	469	571	—	34	-1	22	—	-15
Germany	1,096	1,135	—	81	17	4	—	25
Italy	702	675	—	49	15	-4	—	-16
Netherlands	1,636	1,561	—	152	-11	-5	—	0
United Kingdom	760	883	—	62	3	16	—	0
Portugal	338	251	—	17	10	-26	—	15
Spain, incl. Canary Islands	976	855	—	79	15	-12	—	-3
Other Western Europe	493	538	500	45	-3	9	0	0
Switzerland	171	194	—	16	3	13	—	-24
EASTERN EUROPE	533	306	200	26	35	-43	-33	42
Poland	101	46	—	5	124	-54	—	-21
Yugoslavia	129	74	—	10	69	-43	—	913
Romania	210	82	—	6	239	-61	—	-32
Former USSR	3,006	1,758	2,700	240	-9	-42	50	20
ASIA	18,174	16,094	17,400	1,593	-3	-11	8	20
West Asia (Mideast)	1,998	1,430	1,700	110	-12	-28	21	20
Turkey	260	224	—	25	9	-14	—	60
Iraq	497	0	0	0	-37	-100	0	0
Israel, incl. Gaza & W. Bank	285	287	—	20	-14	1	—	4
Saudi Arabia	502	536	600	36	4	7	20	61
South Asia	723	375	—	39	-38	-48	—	-1
Bangladesh	120	67	—	22	-44	-44	—	137
India	116	95	—	7	-52	-18	—	-27
Pakistan	391	144	200	1	-35	-63	100	-88
China	909	668	900	87	-39	-27	29	108
Japan	8,155	7,738	8,100	771	0	-5	5	14
Southeast Asia	1,184	1,239	—	144	21	5	—	46
Indonesia	277	279	—	39	28	1	—	51
Philippines	351	373	400	52	2	6	0	123
Other East Asia	5,206	4,646	4,900	442	13	-11	7	17
Taiwan	1,819	1,739	1,900	186	14	-4	12	37
Korea, Rep.	2,701	2,159	2,200	191	10	-20	5	9
Hong Kong	685	745	800	66	19	9	14	-2
AFRICA	2,011	1,884	1,900	226	-12	-8	0	67
North Africa	1,527	1,388	1,200	162	-15	-9	-14	90
Morocco	164	129	—	9	-24	-21	—	-11
Algeria	491	479	500	65	-11	-2	0	79
Egypt	763	692	600	85	-20	-9	-14	146
Sub-Saharan	484	496	700	64	0	2	40	79
Nigeria	32	44	—	3	7	37	—	-54
Rep. S. Africa	81	74	—	18	43	-9	—	612
LATIN AMERICA & CARIBBEAN	5,155	5,500	6,100	591	-5	7	4	19
Brazil	105	271	200	7	-30	159	-33	-8
Caribbean Islands	1,008	1,010	—	60	0	0	—	-1
Central America	463	497	—	42	3	7	—	-5
Colombia	147	124	—	13	6	-16	—	-1
Mexico	2,666	2,884	3,400	397	-3	8	17	39
Peru	187	150	—	5	132	-20	—	-59
Venezuela	345	307	400	30	-41	-11	33	2
CANADA	3,716	4,409	4,700	425	70	19	7	7
OCEANIA	317	346	400	30	18	9	33	25
TOTAL	40,220	37,809	41,000	3,706	2	-6	9	18
Developed countries	19,805	20,104	21,200	1,833	10	2	6	9
Developing countries	15,968	14,789	16,000	1,788	-3	-7	9	25
Other countries	4,448	2,736	3,800	87	-15	-38	41	108

*Fiscal years begin Oct. 1 & end Sept. 30. Fiscal year 1991 began Oct. 1, 1990 & ended Sept. 30, 1991. F = forecast — = not available.
 Note: Adjusted for transshipments through Canada.

Information contact: Stephen MacDonald (202) 219-0822.

Farm Income

Table 29.—Farm Income Statistics

	Calendar year										
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991 F	1992 F
	\$ billion										
1. Farm receipts	147.8	141.9	147.7	150.1	140.2	148.3	157.3	168.8	175.8	175	184 to 189
Crops (incl. net CCC loans)	72.3	67.2	69.9	74.3	63.7	65.8	71.8	76.8	80.4	82	81 to 84
Livestock	70.3	69.8	72.9	69.8	71.8	76.0	79.4	84.1	89.6	86	83 to 85
Farm related 1/	6.2	5.1	4.9	6.0	5.7	6.8	6.3	8.1	6.7	7	6 to 8
2. Direct Government payments	3.5	9.3	8.4	7.7	11.8	16.7	14.5	10.9	9.3	8	8 to 9
Cash payments	3.5	4.1	4.0	7.6	8.1	8.8	7.1	9.1	8.4	8	8 to 9
Value of PIK commodities	0.0	6.2	4.5	0.1	3.7	10.1	7.4	1.7	0.9	0	0 to 1
3. Gross cash income (1+2) 2/	151.3	151.1	156.1	157.9	152.8	165.1	171.9	179.9	186.0	183	179 to 186
4. Nonmoney income 3/	14.3	13.8	5.9	5.8	5.5	5.6	6.1	6.1	6.3	9	5 to 7
5. Value of inventory change	-1.4	-10.9	6.0	-2.3	-2.2	-2.3	-3.5	4.3	2.9	-1	1 to 4
6. Total gross farm income (3+4+5)	164.1	153.9	168.0	161.2	156.1	168.4	174.5	190.3	195.1	188	187 to 194
7. Cash expenses 4/	113.2	112.8	118.7	110.7	105.0	109.8	114.5	120.5	124.2	125	125 to 130
8. Total expenses	140.3	139.6	141.9	132.4	125.1	128.7	133.9	140.2	144.3	148	148 to 151
9. Net cash income (4-7)	38.1	38.4	37.4	47.1	47.8	55.3	57.4	59.4	61.8	58	51 to 58
10. Net farm income (3-8)	23.8	14.2	26.1	28.8	31.0	39.7	40.8	50.1	50.8	42	37 to 45
Deflated (1987\$)	28.5	18.3	28.7	30.5	32.0	39.7	39.1	48.2	45.0	36	31 to 38

1/ Income from machine hire, custom work, sales of forest products, & other miscellaneous cash sources. 2/ Numbers in parentheses indicate the combination of items required to calculate a given item. 3/ Value of home consumption of self-produced food & imputed gross rental value of farm dwellings. 4/ Excludes capital consumption, perquisites to hired labor, & farm household expenses. Total may not add because of rounding. F = forecast.

Information contact: Robert McElroy (202) 219-0800.

Table 30.—Balance Sheet of the U.S. Farming Sector

	Calendar year 1/										
	1982 ²	1983	1984	1985	1986	1987	1988	1989	1990	1991 F	1992 F
	\$ billion										
Assets											
Real estate	750.0	753.4	661.7	586.1	542.2	578.9	595.5	615.1	620	622	620 to 630
Non-real estate	195.6	191.9	196.9	187.4	182.3	193.9	205.8	214.6	222.0	224	221 to 231
Livestock & poultry	53.0	49.5	49.5	48.3	47.8	58.0	62.2	66.2	70.8	68	70 to 74
Machinery & motor vehicles	86.0	85.8	85.0	62.9	81.5	80.0	82.0	85.8	87.4	89	88 to 92
Crops stored 2/	26.4	24.4	26.3	22.9	18.6	17.8	22.7	23.3	22.4	23	20 to 24
Purchased inputs	—	—	2.0	1.2	2.1	3.0	3.3	2.7	2.8	3	2 to 4
Financial assets	29.7	30.9	32.6	33.3	34.5	35.1	35.4	36.6	38.5	40	39 to 43
Total farm assets	945.1	944.0	857.1	772.6	724.6	772.8	801.1	829.7	850.0	846	845 to 855
Liabilities											
Real estate debt 3/	101.8	103.2	106.7	100.1	90.4	82.4	77.8	75.3	73.4	75	73 to 77
Non-real estate debt 4/	87.0	87.9	87.1	77.5	66.6	62.0	61.7	61.8	63.1	64	63 to 67
Total farm debt	188.8	191.1	193.8	177.6	157.0	144.4	139.4	137.1	136.5	139	137 to 143
Total farm equity	756.3	752.9	663.3	595.0	567.6	628.4	661.7	692.6	713.5	707	710 to 720
	Percent										
Selected ratios											
Debt-to-assets	20.0	20.2	22.6	23.0	21.7	18.7	17.4	16.5	16.1	16	16 to 17
Debt-to-equity	25.0	25.4	29.2	29.8	27.7	23.0	21.1	19.8	19.1	20	19 to 20
Debt-to-net cash income	496	498	518	377	328	261	243	231	221	241	250 to 260

1/ As of Dec. 31. 2/ Non-COC crops held on farms plus value above loan rates for crops held under COC. 3/ Excludes debt on operator dwellings, but includes COC storage and drying facilities loans. 4/ Excludes debt for nonfarm purposes. F = forecast.

Information contacts: Ken Erickson or Jim Ryan (202) 219-0798.

Table 31.—Cash Receipts From Farm Marketings, by State

Region & State	Livestock & products				Crops 1/				Total 1/			
	1990	1991	Mar 1992	Apr 1992	1990	1991	Mar 1992	Apr 1992	1990	1991	Mar 1992	Apr 1992
	\$ million 2/											
NORTH ATLANTIC												
Maine	220	215	20	19	240	203	18	23	460	418	38	42
New Hampshire	63	63	6	5	71	70	8	8	134	133	13	14
Vermont	398	365	33	33	49	51	8	11	447	416	41	44
Massachusetts	118	118	11	10	303	337	17	21	418	453	28	31
Rhode Island	13	13	1	1	58	58	5	6	71	71	6	7
Connecticut	196	193	16	14	250	253	18	23	446	446	35	37
New York	1,983	1,766	151	153	1,023	1,067	76	86	3,006	2,833	227	240
New Jersey	196	199	17	16	452	464	26	36	647	663	43	52
Pennsylvania	2,714	2,478	215	223	1,053	1,009	85	86	3,767	3,487	301	309
NORTH CENTRAL												
Ohio	1,836	1,662	131	131	2,335	2,285	139	133	4,172	3,946	270	264
Indiana	2,060	1,892	134	137	2,871	2,596	125	181	4,931	4,488	258	318
Illinois	2,477	2,288	174	164	5,461	5,198	374	385	7,938	7,486	548	549
Michigan	1,398	1,277	97	100	1,785	1,787	119	131	3,183	3,064	216	231
Wisconsin	4,581	4,162	341	350	1,125	1,175	57	67	5,706	5,337	398	417
Minnesota	3,758	3,485	286	286	3,253	3,386	132	226	7,011	6,871	418	511
Iowa	5,882	5,502	417	449	4,437	4,539	285	349	10,319	10,040	702	798
Missouri	2,271	2,155	180	175	1,668	1,673	90	93	3,939	3,828	271	268
North Dakota	813	803	44	43	1,724	1,919	140	109	2,537	2,722	184	151
South Dakota	2,313	2,239	179	161	1,038	1,089	60	91	3,349	3,327	238	251
Nebraska	6,037	5,950	420	362	2,808	2,951	177	209	8,845	8,901	597	571
Kansas	4,896	4,731	458	405	2,099	2,123	159	116	6,995	6,854	617	521
SOUTHERN												
Delaware	480	431	37	36	184	175	8	11	644	605	45	47
Maryland	828	785	65	65	517	509	37	51	1,345	1,295	103	117
Virginia	1,379	1,352	112	121	741	726	30	28	2,120	2,078	142	149
West Virginia	269	267	20	22	70	74	3	2	338	342	23	24
North Carolina	2,653	2,544	203	206	2,214	2,272	63	79	4,867	4,816	266	284
South Carolina	577	568	41	45	599	674	24	25	1,176	1,231	65	70
Georgia	2,268	2,064	170	153	1,574	1,828	64	78	3,842	3,892	235	231
Florida	1,260	1,200	93	86	4,448	4,836	645	667	5,708	6,036	739	753
Kentucky	1,698	1,832	102	100	1,400	1,480	37	32	3,098	3,112	139	132
Tennessee	1,111	1,051	101	79	928	970	33	33	2,039	2,021	134	112
Alabama	2,083	2,010	212	161	655	753	36	41	2,737	2,763	248	202
Mississippi	1,322	1,291	99	93	1,111	1,191	38	47	2,433	2,482	137	139
Arkansas	2,706	2,575	206	198	1,553	1,836	53	51	4,259	4,410	259	249
Louisiana	637	617	48	47	1,284	1,261	26	32	1,921	1,879	74	78
Oklahoma	2,363	2,382	350	226	1,191	1,049	52	51	3,554	3,431	403	277
Texas	7,712	7,693	677	607	4,268	4,496	182	210	11,981	12,189	859	818
WESTERN												
Montana	684	854	57	35	742	746	78	58	1,606	1,600	135	94
Idaho	1,154	1,099	97	87	1,781	1,566	78	97	2,935	2,665	176	184
Wyoming	610	616	47	35	157	162	7	5	767	777	54	40
Colorado	3,029	2,906	213	223	1,184	1,099	70	67	4,213	4,005	283	289
New Mexico	1,046	1,026	86	77	483	477	18	18	1,529	1,503	104	95
Arizona	819	823	60	64	1,046	1,206	149	51	1,865	2,029	209	115
Utah	576	555	46	44	179	167	13	19	755	722	60	62
Nevada	218	218	16	16	115	93	8	7	333	311	24	24
Washington	1,396	1,318	107	111	2,420	2,698	189	215	3,816	4,016	296	326
Oregon	755	751	65	60	1,557	1,546	97	88	2,312	2,297	162	146
California	5,515	5,474	415	375	13,344	13,370	836	795	18,859	18,843	1,251	1,170
Alaska	6	8	1	1	19	19	1	1	27	27	2	2
Hawaii	88	89	8	7	499	489	42	40	588	578	50	48
UNITED STATES	89,823	85,742	7,087	6,617	80,364	82,002	5,035	5,288	169,987	167,743	12,122	11,903

1/ Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. 2/ Estimates as of end of current month. Totals may not add because of rounding.

Information contact: Roger Strickland (202) 219-0806.

Table 32.—Cash Receipts From Farming

	Annual						1991		1992			
	1986	1987	1988	1989	1990	1991	Apr	Dec	Jan	Feb	Mar	Apr
	\$ million											
Farm marketings & CCC loans*	135,303	141,759	151,082	160,893	169,987	187,743	12,474	15,298	14,681	11,446	12,122	11,903
Livestock & products	71,553	75,994	79,437	84,131	89,623	85,742	8,697	7,605	7,032	6,717	7,087	6,617
Meat animals	39,081	44,478	46,492	48,857	51,677	50,325	4,114	4,326	4,069	4,053	4,191	3,770
Dairy products	17,724	17,727	17,641	19,398	20,199	18,321	1,480	1,810	1,806	1,487	1,581	1,589
Poultry & eggs	12,701	11,516	12,868	15,372	15,270	14,641	1,139	1,308	1,160	1,012	1,133	1,087
Other	2,048	2,274	2,436	2,507	2,477	2,455	163	163	196	164	182	171
Crops	63,749	65,764	71,645	78,761	80,364	82,002	5,577	7,694	7,649	4,729	5,035	5,286
Food grains	5,741	5,776	7,487	8,247	7,876	7,260	304	584	769	554	507	393
Feed crops	18,911	14,576	14,298	17,061	19,116	19,278	1,320	1,536	2,388	1,243	1,167	1,260
Cotton (lint & seed)	3,371	4,189	4,548	5,040	5,234	6,006	210	1,147	804	212	105	193
Tobacco	1,894	1,816	2,083	2,415	2,736	2,898	18	692	452	38	8	10
Oil-bearing crops	10,814	11,283	13,500	11,866	12,403	12,597	705	786	1,185	762	587	745
Vegetables & melons	8,865	9,902	9,787	11,461	11,533	11,799	1,223	467	767	654	1,140	1,086
Fruits & tree nuts	7,252	8,062	9,204	9,257	9,306	9,856	460	1,128	553	525	523	453
Other	9,101	10,161	10,760	11,416	12,150	12,308	1,337	1,373	752	741	1,007	1,267
Government payments	11,813	16,747	14,480	10,887	9,298	8,214	1,251	1,390	72	822	1,580	1,721
Total	147,116	158,506	165,562	171,780	179,285	175,957	13,725	16,688	14,753	12,268	13,702	13,824

* Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period.

Information contact: Roger Strickland (202) 219-0806.

Table 33.—Farm Production Expenses

	Calendar year									
	1983	1984	1985	1986	1987	1988	1989	1990	1991 F	1992 F
	\$ million									
Feed purchased	20,573	19,383	16,949	17,472	17,463	20,393	21,002	20,727	20,000	18,000 to 22,000
Livestock purchased	8,818	9,487	9,184	9,758	11,842	12,764	13,138	14,737	14,000	12,000 to 14,000
Seed purchased	2,690	3,366	3,128	3,188	3,259	3,359	3,558	3,582	4,000	3,000 to 5,000
Farm-origin inputs	32,081	32,256	29,261	30,418	32,584	36,516	37,698	39,046	38,000	36,000 to 41,000
Fertilizer & lime	7,055	8,361	7,513	6,820	6,453	6,947	7,249	7,137	7,000	6,000 to 8,000
Fuels & oils	7,211	7,296	8,436	5,310	4,957	5,091	4,983	5,951	6,000	5,000 to 7,000
Electricity	1,982	2,080	1,878	1,795	2,156	2,278	1,990	1,944	2,000	1,000 to 3,000
Pesticides	3,870	4,688	4,334	4,324	4,512	4,577	5,437	5,727	6,000	5,000 to 7,000
Manufactured inputs	20,118	22,404	20,160	18,249	18,077	18,893	19,659	20,759	21,000	20,000 to 23,000
Short-term interest	10,815	10,396	8,735	7,367	6,767	6,797	6,910	6,805	7,000	6,000 to 8,000
Real estate interest 1/	10,815	10,733	9,878	9,131	8,187	7,885	7,781	7,667	7,000	6,000 to 8,000
Total interest charges	21,430	21,129	18,613	16,498	14,954	14,682	14,691	14,472	14,000	13,000 to 16,000
Repair & maintenance 1/2/	6,529	6,416	6,370	6,426	6,761	6,800	7,272	7,283	8,000	7,000 to 9,000
Contract & hired labor	8,938	9,427	10,008	9,484	9,975	10,441	11,110	12,543	14,000	13,000 to 17,000
Machine hire & custom work	2,213	2,566	2,364	2,099	2,105	2,350	2,674	2,634	3,000	2,000 to 4,000
Marketing, storage, & transportation	3,904	4,012	4,127	3,852	4,078	3,450	4,080	3,972	4,000	3,000 to 5,000
Misc. operating expenses 1/	10,961	10,331	10,010	9,759	11,327	11,404	12,446	12,236	11,000	10,000 to 14,000
Other operating expenses	32,545	32,751	32,868	31,420	34,248	34,445	37,582	38,669	41,000	41,000 to 46,000
Capital consumption 1/	23,758	20,847	19,299	17,788	16,740	17,075	17,553	17,545	18,000	17,000 to 19,000
Taxes 1/	4,465	4,337	4,542	4,612	4,853	4,848	5,127	5,823	6,000	5,000 to 7,000
Net rent to nonoperator landlord	5,211	8,150	7,690	6,099	7,304	7,445	7,911	8,177	8,000	7,000 to 9,000
Other overhead expenses	33,434	33,334	31,631	28,499	28,897	29,367	30,590	31,345	32,000	30,000 to 35,000
Total production expenses	139,608	141,873	132,433	125,084	128,737	133,902	140,219	144,291	146,000	146,000 to 151,000

1/ Includes operator dwellings. 2/ Beginning in 1982, miscellaneous operating expenses include other livestock purchases & dairy assessments. Totals may not add because of rounding. F = forecast.

Information contacts: Chris McGath (202) 219-0804, Robert McElroy (202) 219-0800.

Table 34.—CCC Net Outlays by Commodity & Function

COMMODITY/PROGRAM	Fiscal year									
	1984	1985	1986	1987	1988	1989	1990	1991	1992 E	1993 E
	\$ million									
Feed grains										
Corn	-934	4,403	10,524	12,346	8,227	2,883	2,450	2,387	1,949	4,165
Grain sorghum	70	463	1,185	1,203	764	467	361	243	187	361
Barley	69	336	471	394	57	45	-93	71	174	167
Oats	5	2	28	17	-2	1	-5	12	33	32
Corn & oat products	8	7	5	7	7	8	8	9	9	8
Total feed grains	-758	5,211	12,211	13,967	9,053	3,384	2,721	2,722	2,352	4,733
Wheat & products	2,536	4,661	3,440	2,836	878	53	806	2,958	1,608	1,751
Rice	333	990	947	906	128	631	667	667	698	736
Upland cotton	244	1,553	2,142	1,786	666	1,461	-79	382	1,271	1,893
Tobacco	346	455	253	-346	-453	-367	-307	-143	-32	38
Dairy	1,502	2,085	2,337	1,166	1,295	679	595	839	199	131
Soybeans	-585	711	1,567	-476	-1,676	-86	5	40	6	-20
Peanuts	1	12	32	8	7	13	1	48	83	35
Sugar	10	184	214	-65	-246	-25	15	-20	-27	-28
Honey	90	81	89	73	100	42	47	19	21	14
Wool	132	109	123	152	1/ 5	93	104	172	182	183
Operating expense 3/	362	346	457	535	614	620	618	625	7	7
Interest expenditure	1,064	1,435	1,411	1,219	425	98	632	745	675	271
Export programs 4/	743	134	102	276	200	-102	-34	733	1,969	1,982
1989/90 Disaster/										
livestock assistance	0	0	0	0	0	3,919	2/ 161	121	1,088	0
Other	1,295	-314	486	371	1,665	110	609	2	466	1,368
Total	7,315	17,683	25,841	22,408	12,481	10,523	6,471	10,110	10,564	13,094
FUNCTION										
Price-support loans (net)	-27	6,272	13,628	12,199	4,579	-926	-399	418	541	1,066
Cash direct payments 5/										
Deficiency	612	6,302	6,188	4,833	3,971	5,798	4,178	6,224	5,118	7,718
Diversification	1,504	1,525	64	362	8	-1	0	0	0	0
Dairy termination	0	0	489	587	260	168	189	96	13	0
Other	0	0	27	60	0	42	3	21	327	419
Disaster	1	0	0	0	6	4	0	0	0	0
Total direct payments	2,117	7,827	6,748	5,862	4,245	6,011	4,370	6,341	5,458	8,137
1988/91 crop disaster	0	0	0	0	0	3,386	2/ 5	6	966	0
Emergency livestock/										
forage assistance	0	0	0	0	31	533	156	115	90	0
Purchases (net)	1,470	1,331	1,670	-479	-1,131	116	-48	648	220	199
Producer storage										
payments	268	329	485	832	658	174	185	1	28	24
Processing, storage,										
& transportation	639	657	1,013	1,659	1,113	659	317	394	192	128
Operating expense 3/	362	346	457	535	614	620	618	625	7	7
Interest expenditure	1,064	1,435	1,411	1,219	425	98	632	745	675	271
Export programs 4/	743	134	102	276	200	-102	-34	733	1,969	1,982
Other	679	-648	329	305	1,727	-46	669	86	390	1,280
Total	7,315	17,683	25,841	22,408	12,481	10,523	6,471	10,110	10,564	13,094

1/ Fiscal 1988 wool & mohair program outlays were \$130,635,000 but include a one-time advance appropriation of \$126,108,000, which was recorded as a wool program receipt by Treasury. 2/ Approximately \$1.5 billion in benefits to farmers under the Disaster Assistance Act of 1989 were paid in generic certificates & were not recorded directly as disaster assistance outlays. 3/ Does not include CCC Transfers to General Sales Manager. 4/ Includes Export Guarantee Program, Direct Export Credit Program, CCC Transfers to the General Sales Manager, Market Promotion Program, starting in fiscal 1991 & starting in fiscal 1992 the Export Guarantee Program - Credit Reform, Export Enhancement Program, & Dairy Export Incentive Program. 5/ Includes cash payments only. Excludes payment-in-kind in fiscal 83-85 & generic certificates in fiscal 86-92. E = Estimated in the fiscal 1993 Mid-Session Review Budget based on June, 1992 supply & demand estimates. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds).

Information contact: Richard Pazdalski (202) 720-5148.

Food Expenditures

Table 35.—Food Expenditures Estimates

	Annual			1992			1992 year-to-date		
	1989	1990	1991	Apr	May P	June P	Apr	May P	June P
\$ billion									
Sales 1/									
Off-premise use 2/	274.3	296.7	304.0	25.3	26.5	25.7	98.7	125.4	151.1
Meals & snacks 3/	206.3	218.7	227.0	19.0	20.2	20.1	74.6	94.8	114.8
1991 \$ billion									
Sales 1/									
Off-premise use 2/	299.9	304.2	304.0	25.0	26.4	25.7	98.1	124.5	150.2
Meals & snacks 3/	223.3	226.0	226.9	18.7	19.8	19.7	73.5	93.3	113.0
Percent change from year earlier (\$ bil.)									
Sales 1/									
Off-premise use 2/	7.1	8.2	2.5	4.4	-1.3	-0.9	2.5	1.7	1.2
Meals & snacks 3/	5.5	6.0	3.8	2.3	1.5	-0.7	5.7	4.7	3.7
Percent change from year earlier (1991 \$ bil.)									
Sales 1/									
Off-premise use 2/	0.6	1.4	-0.1	-4.1	-0.8	0.0	1.9	1.4	1.1
Meals & snacks 3/	0.8	1.2	0.4	0.0	-0.6	-2.4	3.0	2.2	1.3

1/ Food only (excludes alcoholic beverages). Not seasonally adjusted. 2/ Excludes donations & home production. 3/ Excludes donations, child nutrition subsidies, & meals furnished to employees, patients, & inmates. P = preliminary.

NOTE: This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food not alcoholic beverages & pet food which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced & consumed on farms & food furnished to employees; (4) this series includes all sales of meals & snacks. PCE includes only purchases using personal funds, excluding business travel & entertainment. For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," Agr.-Econ. Rpt. No. 575, Aug 1987.

Information contact: Alden Manchester (202) 219-0880.

Transportation

Table 36.—Rail Rates; Grain & Fruit-Vegetable Shipments

	Annual			1991		1992				
	1989	1990	1991	May	Dec	Jan	Feb	Mar	Apr	May
Rail freight rate index 1/ (Dec. 1984=100)										
All products	106.4	107.5	109.3	109.6	108.3	109.5	109.3	109.8 P	109.9 P	109.7 P
Farm products	108.4	110.4	111.4	111.8	111.0	111.1	111.1	110.3 P	110.5 P	110.3 P
Grain	108.7	110.1	111.2	111.2	111.3	111.4	111.3	110.2 P	110.5 P	110.2 P
Food products	103.9	105.4	108.1	108.2	108.3	108.6	108.6	109.3 P	109.4 P	108.4 P
Grain shipments										
Rail carloadings (1,000 cars) 2/	28.4	27.6	28.4	20.8	28.8 P	29.0 P	29.9 P	30.0 P	28.6 P	21.1 P
Barge shipments (mil. ton) 3/	3.3	3.8	3.3	3.7	2.9	1.8	2.0	3.4	3.8	4.1
Fresh fruit & vegetable shipments 4/ 5/										
Piggy back (mil. cwt)	2.2	1.8	1.5	2.6	1.3	1.5	1.4	1.5	1.8	2.3
Rail (mil. cwt)	2.6	2.3	2.1	2.5	2.6	3.1	2.7	2.7	2.8	3.5
Truck (mil. cwt)	42.3	41.5	41.9	53.1	40.3	41.4	41.5	44.8	50.8	55.7
Cost of operating trucks hauling produce 4/										
Fleet operation (cts./mile)	123.4	130.5	126.5	127.6	124.0	122.6	122.7	122.8	123.3	123.8

1/ Department of Labor, Bureau of Labor Statistics. 2/ Weekly average; from Association of American Railroads. 3/ Shipments on Illinois & Mississippi waterways, U.S. Corps of Engineers. 4/ Agricultural Marketing Service, USDA. 5/ Preliminary data for 1992. P = preliminary.

Information contact: T.Q. Hutchinson (202) 219-0840.

Indicators of Farm Productivity

Table 37.—Indexes of Farm Production, Input Use & Productivity ^{1/}

	1982	1983	1984	1985	1986	1987	1988	1989	1990 2/	1991 2/
	1977=100									
Farm output	116	96	112	118	111	110	102	114	119	120
All livestock products 3/	107	109	107	110	110	113	116	116	118	119
Meat animals	101	104	101	102	100	102	105	104	104	104
Dairy products	110	114	110	117	116	116	118	117	120	121
Poultry & eggs	119	120	123	128	133	144	148	153	162	168
All crops 4/	117	88	111	118	109	108	92	107	114	111
Feed grains	122	87	116	134	123	108	73	108	112	106
Hay & forage	109	100	107	108	106	102	89	101	102	103
Food grains	138	117	129	121	107	107	98	107	138	104
Sugar crops	96	93	95	97	106	111	105	105	107	112
Cotton	85	55	91	94	69	103	107	86	109	122
Tobacco	104	75	90	81	63	62	72	71	84	87
Oil crops	121	91	106	117	130	108	89	108	107	114
Cropland used for crops	101	88	99	98	94	88	87	90	90	—
Crop production per acre	116	100	112	120	116	123	108	119	127	—
Farm input 5/	98	96	95	91	89	89	87	87	88	—
Farm real estate	102	101	99	97	96	95	94	93	93	—
Mechanical power & machinery	89	86	85	80	77	74	74	73	71	—
Agricultural chemicals	118	102	120	115	109	111	112	119	122	—
Feed, seed, & livestock purchases	107	103	103	102	109	116	111	113	113	—
Farm output per unit of input	119	100	118	129	124	124	116	130	135	—
Output per hour of labor										
Farm 6/	125	99	121	139	139	142	135	147	142	—
Nonfarm 7/	99	102	105	108	108	109	111	112	111	—

1/ For historical data & indexes, see Economic Indicators of the Farm Sector: Production & Efficiency Statistics, 1986, ECIFS 5-6. 2/ Preliminary indexes for 1991 based on Crop Production: 1991 Summary, released in January 1992, & unpublished data from the Agricultural Statistics Board, NASS. 3/ Gross livestock production includes minor livestock products not included in the separate groups shown. It cannot be added to gross crop production to compute farm output. 4/ Gross crop production includes some miscellaneous crops not in the separate groups shown. It cannot be added to gross livestock production to compute farm output. 5/ Includes other items not included in the separate groups shown. 6/ Economic Research Service. 7/ Bureau of Labor Statistics. — = not available.

Information contact: Eldon Ball (202) 219-0432.

Food Supply & Use

Table 38.—Per Capita Consumption of Major Food Commodities ^{1/}

Commodity	1984	1985	1986	1987	1988	1989	1990	1991 2/
	Pounds							
Red meats 3/4/5/	123.7	124.9	122.2	117.4	119.5	115.9	112.4	112.4
Beef	73.8	74.6	74.4	69.5	68.6	65.4	63.9	63.5
Veal	1.5	1.5	1.6	1.3	1.1	1.0	0.9	0.8
Lamb & mutton	1.1	1.1	1.0	1.0	1.0	1.1	1.1	1.1
Pork	47.2	47.7	45.2	45.8	48.8	48.4	46.4	47.0
Poultry 3/4/5/	43.7	45.2	47.1	50.7	51.7	53.6	55.4	56.8
Chicken	35.0	36.1	37.0	39.1	39.3	40.5	41.5	42.6
Turkey	8.7	9.1	10.2	11.6	12.4	13.1	13.8	14.2
Fish & shellfish 4/	14.1	15.0	15.4	16.1	15.1	15.6	15.0	14.8
Eggs 5/	33.0	32.4	32.2	32.2	31.2	29.9	29.6	29.3
Dairy products								
Cheese (excluding cottage) 3/6/	21.5	22.5	23.1	24.1	23.7	23.8	24.7	25.2
American	11.9	12.2	12.1	12.4	11.5	11.0	11.2	11.2
Italian	5.8	6.5	7.0	7.6	8.1	8.5	9.1	9.5
Other cheese 7/	3.9	3.9	4.0	4.1	4.1	4.3	4.4	4.6
Cottage cheese	4.1	4.1	4.1	3.9	3.9	3.6	3.3	3.2
Beverage milks 3/	227.2	229.7	228.6	226.5	222.3	224.3	221.6	218.7
Fluid whole milk 8/	126.8	123.3	116.5	111.9	105.7	97.6	90.3	—
Fluid lowfat milk 9/	68.8	93.7	98.6	100.6	100.5	106.5	108.3	—
Fluid skim milk	11.6	12.6	13.5	14.0	16.1	20.2	22.9	—
Fluid cream products 10/	6.2	6.7	7.0	7.1	7.1	7.3	7.1	—
Yogurt (excluding frozen)	3.7	4.1	4.4	4.4	4.7	4.3	4.1	—
Ice cream	18.2	18.1	18.4	18.3	17.3	18.1	15.8	16.4
Ice milk	7.0	6.9	7.2	7.4	8.0	8.4	7.7	7.3
Frozen yogurt	—	—	—	—	—	2.0	2.8	3.6
All dairy products, milk equivalent, milkfat basis 11/	581.9	593.7	591.5	601.3	583.2	565.3	570.8	564.5
Fats & oils — Total fat content	58.8	64.3	64.3	62.9	63.0	61.1	62.7	—
Butter & margarine (product weight)	15.3	15.7	16.0	15.2	14.8	14.6	15.3	—
Shortening	21.3	22.9	22.1	21.4	21.5	21.5	22.2	—
Lard & edible tallow (direct use)	3.8	3.7	3.5	2.7	2.6	2.7	3.0	—
Salad & cooking oils	19.9	23.5	24.2	25.4	25.8	24.0	24.2	—
Fresh fruits & melons 12/	110.0	108.0	114.9	119.6	117.1	119.4	111.9	—
Canned fruit 13/	12.3	12.7	12.9	13.6	13.3	13.4	13.4	—
Dried fruit	2.5	2.8	2.7	2.6	2.9	3.2	3.2	—
Frozen fruit	3.0	3.3	3.6	3.9	3.8	4.6	4.3	—
Frozen citrus juices 14/	35.7	40.5	43.2	40.2	40.1	34.3	27.2	—
Vegetables 12/								
Fresh	100.3	100.2	99.3	105.7	109.8	112.9	111.0	—
Canning	90.9	87.8	87.9	87.8	83.5	90.7	93.3	—
Freezing	17.5	17.1	15.8	16.8	18.3	17.8	18.1	—
Potatoes, all 12/	121.9	122.4	125.7	125.7	122.2	126.7	127.2	—
Sweetpotatoes 12/	4.9	5.4	4.4	4.4	4.1	4.1	4.7	—
Peanuts (shelled)	6.0	6.3	6.4	6.4	6.9	7.0	6.0	6.4
Tree nuts (shelled)	2.3	2.3	2.3	2.2	2.3	2.3	2.5	—
Flour & cereal products 15/	150.4	157.5	163.7	172.5	174.3	174.9	183.0	184.3
Wheat flour	119.2	124.7	125.7	129.9	130.0	129.2	135.7	135.9
Rice (milled basis)	8.5	9.0	11.6	14.0	14.3	15.2	16.2	17.0
Caloric sweeteners 16/	127.0	131.3	129.6	133.7	135.1	136.4	139.1	140.2
Coffee (green bean equiv.)	10.2	10.5	10.5	10.2	9.8	10.3	10.2	—
Cocoa (chocolate liquor equiv.)	3.4	3.7	3.8	3.9	3.8	3.9	4.2	—

1/ In pounds, retail weight unless otherwise stated. Consumption normally represents total supply minus exports, nonfood use, & ending stocks. Calendar-year data except fresh citrus fruits, peanuts, tree nuts, & rice, which are on crop-year basis. 2/ Preliminary.

3/ Total may not add due to rounding. 4/ Boneless, trimmed weight. Chicken series revised to exclude amount of ready-to-cook chicken going to pet food as well as some water leakage that occurs when chicken is cut up before packaging. 5/ Excludes shipments to the U.S. territories. 6/ Natural equivalent of cheese & cheese & other dairy products. Includes miscellaneous cheese not shown separately.

7/ Includes Swiss, Brick, Munster, cream, Neufchatel, Blue, Gorgonzola, Edam, & Gouda. 8/ Plain & flavored. 9/ Plain & flavored & buttermilk. 10/ Heavy cream, light cream, half & half, & sour cream & dip. 11/ Includes condensed & evaporated milk & dry milk products. 12/ Farm weight. 13/ Excludes pineapple & berries. 14/ Single strength equivalent. 15/ Includes rye, corn, oat, & barley products. Excludes quantities used in alcoholic beverages, corn sweeteners, & fuel. 16/ Dry weight equivalent. — Not available.

Information contact: Judy Jones Putnam (202) 219-0870.

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- | | | |
|--------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------|
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| <input type="checkbox"/> | <input type="checkbox"/> | <i>Most of our food comes from small family farms where the farmer is having a tough time making a decent living.</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <i>America is losing the family farm.</i> |
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